Mrs. Kristin Zimbelman, M.Ed.

Course: CTEE 4040- Curriculum and Teaching: Math

Location: Haley Center 2414

Time: 10:30-12:30 Tuesdays

Lab: Monday/Wednesday/Friday (Location TBD)

Credit Hours: 3 Credit hours

Prerequisites: Admission to Teacher Education, junior standing

Co-requisties: CTEE 4030

Preparation Date: August 2017

Contact Information:

Office: 5028 Haley Center

Hours: Tuesdays 12:30-2:00

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Required Text:

Van de Walle, J., Karp, K., & Bay-Williams, J. (2016). *Elementary and middle school mathematics: Teaching developmentally, enhanced Pearson eText- Access Card.* 9th Edition, Pearson Publisher. ISBN-9780134046952

Required Materials:

* Composition notebook
* Tabs
* Flash drive for teaching artifact (wait to purchased until discussed in class)
* COE name button (see LRC)
* Pencil pouch with:
  + Tape
  + Markers
  + Pencils
  + Black ink pen
  + Colored pencils
  + White out
  + Index cards

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.

Course Objectives:

Goal: To critically analyze curriculum and the process of teaching and learning mathematics in the elementary grades.

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:

* 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 reform 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)
* 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)
* 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) and classrooms that reflect meaningful mathematics and build on prior knowledge.
* 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)
* use the major concepts and modes of inquiry from mathematics to promote elementary students' abilities to 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)
* 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)
* 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)
* 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)
* 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)
* 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)

Course Requirements/Assignments:

\*All assignments must be completed in order to earn 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 the 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.**
* Assignment 1: Activities (In Class & Homework), Journal & Professionalism (16 points)
  + 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.
  + You will complete math journal entries that are related to your experiences in the field, readings, activities, and class discussions. These are designed to help you make connections between the readings, mathematical content and your fieldwork.
  + Criteria and grading information will be shared in class and on Canvas.
* Assignment 2: Math Pedagogical Content Knowledge Test (20 points)
  + 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 multiplication, division, addition, subtraction, and fractions.
  + During your placement you need to take notes of specific student problems and strategies that demonstrate the Standards of Math Practices (SMPs). In addition, you will take notes of when you used or observed the Teaching Principles by your teacher. Specific examples of these will be needed on your test.
  + Criteria and grading information will be posted on Canvas.
* Assignment 3: Kidwatching (15 points)
  + Select 2 different children to observe and specifically interact with during math time. Take notes of the ways they 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 type a 3-4-page double spaced paper reflecting on the mathematical thinking and problem solving of your students, suggestions to support their learning, and what you learned about teaching and learning from this. You will apply your pedagogical content knowledge and citations from the readings to discuss your students. You will need to specifically connect specific math problems and strategies of your students to specific content in the text (citations are needed).
  + Criteria and grading information will be posted on Canvas.
* Assignment 4: Tier 2 Collaborative Plan (15 points)
  + When your placement is over, you will select one of your 2 lesson plans that were implemented. You will work with a peer from RSED 5120 to design what type of tier 2 support would be provided to students who need additional support on the objective/ standard. This support would need to be for 15-20 minutes to provide more explicit, small group support. On Nov. 14 you will submit the whole class lesson you taught (so it may be shared with the RSED student) along with specific questions, concerns, manipulatives, and/or thoughts you have. Remember you will only have one hour to meet with your collaborator, so the more questions and information you can share initially the better. Your modified plan is due Nov. 27th by 11:59pm.
  + Criteria and grading information will be share in class and posted on Canvas.
* Assignment 5: Lesson Plan (2 points)
  + Over the course of the semester, develop a lesson plan (at least two must be taught in lab placement) that follows program guidelines, and has attached all assessments, worksheets, PowerPoints, center activities, etc. In addition, a one-page reflection is required. Lesson plans need to be turned in at least one week prior to implementation for feedback to be provided.
  + Criteria and grading information will be posted on Canvas.
* Assignment 6: Lesson Plan 2-Professional Work Sample (PWS) (25 points)
  + This is a two-part assignment. **Part 1 is due 2 days before teaching the lesson and part 2 is due 7 days after teaching the lesson.** This will be a small (or whole class) group reengagement based on a central focus previously taught in 3-5 lessons (either by the teacher or the preservice teacher) that needs additional support, remediation or extension. For example, perhaps 4 lessons were taught on place value, but additional attention is needed so the preservice teacher will create a reengagement lesson on the content. The central focus should support students to develop conceptual understanding, procedural fluency, and mathematical reasoning/problem-solving skills. There will be an additional assessment to analyze the effectiveness of this lesson. This assignment includes: pre-thinking about a lesson based on the assessment from prior lessons, a lesson plan, videotaped teaching, written and oral observer feedback, evidence of student learning (i.e., assessment, analysis, samples), and written reflection on practice towards continuous improvement. Details of this assignment are given in the *Field Placement Handbook*. ***The instructor reserves the right to request additional teachings based on unsatisfactory performance.***
  + Criteria and grading information will be posted on Canvas.
* Assignment 7: Lab Placement (7 points)
  + Students will have a placement in the public schools. The time spent in the laboratory experience in the public schools is crucial to the understanding and implementation of methods and approaches discussed in class. **Failure to successfully complete all lab requirements i.e. attendance, punctuality, professionalism, and teaching responsibility will result in a failure of this course.** See the Lab Placement Handbook for all lab forms and further details.
  + The following are requirements for the lab placement:
    - Teach a minimum of **two lessons**.
      * One lesson will be videotaped for feedback from your instructor.
      * One lesson will be observed by your cooperating teacher for feedback.
    - Demonstrate good teaching and professionalism as stated in the Professional Educators Performance Evaluation Form.
    - No continuous absences (more than 2).
    - No continuous marks of NO or NAC on professionalism and teaching indicators. You must demonstrate your abilities in teaching at the emerging level (Approaching Competency) on all standards and indicators listed on the EDUCATE Alabama observation form in order to pass this course.
    - Field experience hours in this course are linked to certification standards, thus you must complete the minimum number of field experience hours as stated in the lab handbook to earn credit for this course.

Points Earned/Grades:

A = 100-90

B = 89-80

C = 79-70

D = 69-60

F = 59 and below

Course Policy Statements:

* **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.
* **Cell Phones/Electronic Devices**: Students are expected to keep all cell phones off during class time. **No use of electronic devices or text messaging will be permitted.** Violations of these policies will negatively influence the professionalism grade.
* **Attendance/Absences Policy**: Attendance is required at each class meeting and scheduled labs. Expected professional dispositions and performance competencies in this field-based course require students to meet attendance requirements.
  + **Excused Absences**: Excused absences, as defined in the *Tiger Cub* must provide appropriate documentation to the instructor the day the student returns to class. 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/>). **At two absences from class students will be required to meet in conference to discuss continuing in this course.** [See Lab Manual for similar lab attendance policy]. Students will be counseled and placed on an attendance contract in order to continue in the course.
  + **Unexcused Absences:** Each unexcused absence may result in the lowering of the final course grade by one letter grade. 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.
* **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).
* **Accommodations**: Students who need accommodations are asked to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with office hours, an alternate time can be arranged. To set up this meeting, please contact me by email. 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).
* **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.
* **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, an addendum to your syllabus and/or course assignments will replace the original materials.
* **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 and personal iPads need to be turned to off during class and lab experiences unless otherwise instructed by the professor. 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.

Class Schedule

\*Subject to Change per Instructor\*

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| --- | --- |
| Monday  August 21st  8:00-4:00 | **AMSTI Training @ AMSTI Site**  Directions to Site: <http://amstiau.org/> |
| **Due for Today** | * Please bring:   -composition notebook  -2” binder  -pencil pouch w/supplies |
| Tuesday  August 22nd  10:30-12:30 | **Math Topics**  **Introduction**  **Teaching Principals**  **Standards** |
| **Due for Today** | * Please print a hardcopy of the syllabus and bring to class. |
| Wednesday  August 23rd  8:00-4:00 | **AMSTI Training @ AMSTI Site**  Directions to Site: <http://amstiau.org/> |
| **Due for Today** | * Please bring:   -composition notebook  -2” binder  -pencil pouch w/supplies |
| Friday  August 25th  8:00-4:00 | **AMSTI Training @ AMSTI Site**  Directions to Site: <http://amstiau.org/> |
| **Due for Today** | * Please bring:   -composition notebook  -2” binder  -pencil pouch w/supplies |
| Tuesday  August 29th  10:30-12:30 | **Math Topics**  **What is Effective Math Teaching?**  **Number Sense**  **place Value** |
| **Due for Today** | * Assignment #1: Homework Task #1   (Complete in your journal) |
| Wednesday  August 30th  9:00-12:00 | **Math Topics**  **Computation** |
| **Due for Today** | * Assignment #1: Homework Task #2   (Complete in your journal) |
| Tuesday  September 5th  10:30-12:30 | **Math Topics**  **Algorithms**  **Visual Manipulatives** |
| **Due for Today** | * Assignment #1: Homework Task #3   (Complete in your journal) |
| Wednesday  September 6th  9:00-12:00 | **Math Topics**  **Math Games**  **Assessment** |
| **Due for Today** | * Assignment #1: Homework Task #4   (Complete in your journal) |
| Friday  September 8th  8:00-12:00 | **Lab Orientation** |
| **Due for Today** | * Please bring:   -pencil pouch w/supplies |
| Tuesday  September 12th  10:30-12:30 | **Math Topics**  **Fractions**  **Concrete Manipulatives** |
| **Due for Today** | * Assignment #1: Homework Task #5   (Complete in your journal) |
| Wednesday  September 13th  7:00-4:00 | **First Day in the Field** |
| **Due for Today** |  |
| Tuesday  September 19th  10:30-12:30 | **Math Topics**  **Fractions**  **Representations** |
| **Due for Today** | * Assignment #1: Homework Task #6   (Complete in your journal) |
| Tuesday  September 26th  10:30-12:30 | **Math Topics**  **Measurement** |
| **Due for Today** | * Assignment #1: Homework Task #7   (Complete in your journal) |
| Tuesday  October 3rd  10:30-12:30 | **Math Topics**  **Measurement**  **Geometry**  **Review for Pedagogy Exam** |
| **Due for Today** | * Assignment #1: Homework Task #8   (Complete in your journal) |
| Tuesday  October 10th  10:30-12:30  \*Midterm\* | **Math Topics**  **TBA** |
| **Due for Today** | * Assignment #1: Homework Task #9   (Complete in your journal)   * Assignment #6: PWS-Part 1   (Submit on 10/9/17 to Canvas by 11:59pm- REMINDER: submit this two full days before teaching)   * Assignment #6: PWS-Part 2   (Submit on 10/9/17 to Canvas by 11:59pm-REMINDER: submit this within one week after teaching) |
| Tuesday  October 17th  10:30-12:30 | **Math Topics**  **Pedagogy Exam** |
| **Due for Today** | * Assignment #2: Pedagogy Test   (Submit in class) |
| Tuesday  October 24th  7:00-4:00 | **Math Topics**  **2 Full Weeks in Field** |
| **Due for Today** |  |
| Tuesday  October 31st  7:00-4:00 | **Math Topics**  **2 Full Weeks in Field** |
| **Due for Today** | * Assignment #5: Lesson Plan #1 w/Reflection & Observation   (Submit on 10/16/17 to Canvas by 11:59pm) |
| Tuesday  November 7th  10:30-12:30 | **Math Topics**  **Algebra** |
| **Due for Today** | * Assignment #1: Homework Task #10   (Complete in your journal) |
| Tuesday  November 14th  10:30-12:30 | **Math Topics**  **Data Analysis** |
| **Due for Today** | * Assignment #1: Homework Task #11   (Complete in your journal)   * Assignment #1: Journal   (Submit in class)   * Assignment #4: Tier 2- Part 1   (Submit on 11/13/17 to Canvas by 11:59 pm) |
| Tuesday  November 21st  10:30-12:30 | **\*Thanksgiving Break\*** |
| **Due for Today** | ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ |
| Tuesday  November 28th  10:30-12:30 | **Math Topics**  **Wrap Up** |
| **Due for Today** | * Assignment #3: Kidwatching * Assignment #4: Tier 2- Part 2   (Submit on 11/27/17 to Canvas by 11:59 pm) |
| Tuesday  December 5th  10:30-12:30 | **Math Topics**  **Wrap Up** |
| **Due for Today** | * Assignment #1: Homework Task #12   (Complete in your journal) |