Course Syllabus

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AUBURN UNIVERSITY

**CTEE 4040 Curriculum: Mathematics**

**Term:**Summer 2022                                                         **Credit Hours:**4 semester hours

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

**Class Day/Time:**See calendar

**Lab**: See Calendar

**Room:**Haley 2414

**Instructor:**Dr. Megan Burton                                              megan.burton@auburn.edu

**Cell**: 334-332-1818 (personal                                            **Office**: HC 5020: By scheduled appointments or ZOOM

Required Texts and Materials

*Textbook: Answers to your biggest questions about teaching elementary math*.

* Technology (access to a computer/tablet and Internet connection), face mask, a composition notebook, school pouch with supplies (tape, markers, pencil, black ink pen, colored pencils, markers, white out, index cards), materials needed to construct instructional charts, games, and other teaching resources, COE name button [see the LRC for buttons].
	+ **Field-based experience practicum**: The *Field Placement Lab Manual*
	+ **Alabama Course of Study: Mathematics**[http://alex.state.al.us/ccrs/node/74 (Links to an external site.)](http://alex.state.al.us/ccrs/node/74)

**Course Description:**This course examines the principles, current research, and approaches to the teaching and learning of elementary school mathematics. It also explores the relationship between pedagogy and mathematics understanding appropriate for the instruction of children in kindergarten through sixth grade. Through this course, candidates explore and use major concepts and procedures related to teaching elementary mathematics content (geometry, numbers and operations, fractions, algebra, measurement, probability, and data analysis). Candidates plan, implement, and reflect upon appropriate mathematics lessons and curricular materials for the (K-6) classroom that involve rigorous tasks with various entry levels based on the state standards and standards produced by the National Council of Teachers of Mathematics. Lessons build conceptual and procedural understanding while promoting problem solving, reasoning, mathematical communication, make connections, an represent their mathematical thinking., discourse, and engage students in real-life problematics situations. They analyze appropriate assessment data to explain student strategies, provide student feedback to build conceptual understanding and procedural fluency, and plan for future intellectual, social, and emotional growth. Candidates have professional conversations with others about their teaching, and revise professional practices based on these experiences.

This course requires a field placement where students will have an elementary classroom placement for 70 clock hours over the semester (Monday, Wednesday, & Friday) in the same placement as other coursework with field placements and additional hours. During this placement, they will have increasingly more responsibilities and opportunities to practice teaching. They are placed in schools to have a chance to teach children according to the theory and methods presented in their university courses, along with the guidance and modeling their clinical educator provides, which meet state and national standards. We expect them to be working with children and co-teaching as much as you possibly can during this field placement.

Student Learning Outcomes:

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

**Objectives:**After the completion of the course and the clinical based lab, the pre-service teacher

should:

1. Describe and effectively 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 This includes understanding current reforms efforts and technological resources that enhance the learning experience for K-6 students.
2. Effectively use 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.

1. 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.
2. 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
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
4. Plan and implement individual and group activities that emphasize student participation. Plan and analyze appropriate assessments in order to monitor K-6 student learning and progress
5. Exhibit professional dispositions including: preparedness for each class, active participation in all class activities, collaboration with peers, respect for diverse perspectives, proactive communication with instructors, reflection of personal cultural frames of reference, and responsibility in the
6. Reflect on their own teaching practices and consult with other professionals in order to grow

professionally

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

**Class format:**The delivery modality for this course instruction is face-to-face with synchronous meetings on campus. There is no remote attendance option via Zoom for a class meeting on campus.

**Lab**: In addition, this course has a field placement component. Students will be assigned a placement with a summer camp program within the College of Science and Mathematics. They will spend time observing, assisting, and teaching throughout the semester. **See Lab Placement Handbook.**

**Assessments of Learning***The table below shows the alignment between course assignments and the Alabama CIEP Accreditation Standards. Detailed directions and rubrics will be provided for each assignment. \*Denotes a CIEP Key Assessment.*

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| Standards |
| **CIEP Standard** | **Assignment** |
| *Standard 1, 2.3.3* | \*Lesson plan and reflection |
| *Standard 2.3.1, 2.3.2, 3.2, 4* | \*Effects on Student Learning |
| *Standard 2.3.1, 2.3.2* | Pedagogical Content Knowledge Test |

Course Assignments/Projects:

* + Field Placement Forms (30 points): Throughout the semester you will submit the CTEE program required paperwork regarding your field placement (including but not limited to acknowledgment form, information form, professionalism forms, observations of peers, ). Required paperwork should be submitted in Canvas before or by the due date. **See Lab Placement Handbook and Canvas.**
	+ Pedagogical Content Knowledge Test (50 points): **Due July 8 at 8am.**By the end of the course, you should have a firm grasp of the pedagogical content knowledge that you will teach, including how children understand and develop awareness of mathematical skills. In addition, you should have experience identifying the Mathematics Teaching Practices and Standards of Mathematical Practices. You will complete an assessment in which you apply these skills, along with your demonstration of the understanding of common elementary mathematics strategies and
	+ Lesson Plan 1 and Reflection (100 points):**Due 5 days after you teach** Your task will be to write and teach a whole-group math lesson plan that aligns with the Alabama Course of Study mathematics standards for the appropriate grade level, the Math Teaching Practices, and encourages students to use the Standards of Mathematical Practices. You will then teach the written lesson plan, provide feedback to students, and write a reflection on the experiences.
	+ Lesson Plan 2 and Effects on Student Learning (50 points):**Due July 15 at 8am** Following a whole-group assessment, you will analyze the data set, look for overall patterns of learning, provide effective feedback, and determine a small group of students from the analysis who share an identified common learning goal. With this goal as the focus, you will create and teach a lesson to the small group of learners.
	+ Reading and Practice Reflections Journal (60 points): During the semester, you will complete entries in your math journal, which are reflections of readings and activities completed in class as a way to document your learning. Also, while in your field placement, you will take notes of specific examples of students demonstrating the Standards of Mathematical Practices and your teacher (or yourself when teaching) using the Mathematics Teaching The journal entries are designed to help you make connections between the readings, mathematical content, and practicum fieldwork. The journal is to be brought into each class meeting.
	+ In-Class Participation and Activities (5 points each, 40 points total): During class meetings, you will complete activities both independently and participate with your classmates in whole and small groups. Growth and learning are dependent on being present and actively engaged; thus you are expected to fully participate. Participation can include but is not limited to contributions to discussions, reflections, exit slips, math puzzles, games, or activities, as well as working with group members in learning activities.

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| Grading |
| **Grading:** | A: 90-100% of total points | B: 80-89% of total points | C: 70-79% of total points |
| **D: 60-69% of total points** | F: 0-59% of total points |   |

* Assignments should be submitted on time and completed in a thorough Submitted assignments that are incomplete or not submitted by the due date will lose points equal to one letter grade for each day up to the third day past the due date, excluding the course final which cannot be submitted or completed past the due date.
* Students must have satisfactory marks on all areas of the COURSE and FIELD PLACEMENT by the end of this course term to receive credit for this 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. Professionalism is critical to success in the field placement and course.
* If extenuating circumstances arise where you are concerned about completing an assignment by the due date, contact me to discuss the possibility of an extension at least 24 hours prior to the due
* If you have a concern with a specific grade received, please know I am willing to meet in order to discuss your learning, understanding, and effort. I want you to walk away with the skills and content necessary to be successful and to positively impact your future students.
* Meeting attendance, planning, teaching, and professional dispositions in the classroom is required for all field students in this course to show readiness for 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.**

Class Policy Statements:

**Technology:**Students are responsible for checking their Auburn University email and Canvas accounts daily for announcements.

* In class: As research on learning shows, unexpected noises and movement automatically divert and capture people's attention, which means you are affecting everyone’s learning experience if your cell phone, watch, laptop/tablet, makes noise or is visually distracting during class. For this reason, I ask you to silence and/or turn off your phones, close your laptops, and put away your personal devices, unless instructed to use as part of the lesson/activity in class. *\*If you have an emergency, children, someone in your care, or similar circumstances, please communicate with me privately about keeping your device on silent prior to class.*
* When students are asked to use personal devices (e.g. laptop or tablet) for learning activities during class, they should not use the devices for completing another course’s assignments, for social media purposes, Internet surfing, texting/messaging, or other non-class related activities during If this becomes an issue or distraction, a student may be asked to leave the class session.
* Internet Access: This course utilizes Canvas as an online component; thus, students must have access to a working computer and reliable access to the Internet. Students can also use an on- campus computer lab, public library, etc. if needed to ensure access. Make sure to plan ahead with a back-up plan in case of technical For Canvas issues, please reference [Biggio Center's Student Self-Help for Canvas Page. (Links to an external site.)](http://wp.auburn.edu/biggio/helpguides/student-self-help/)
* Tech issues: Much of this course is hosted in Canvas (assignment dropboxes, resources, etc.) and may require students to troubleshoot their own technology Troubleshooting may involve working with the campus help desk, LRC, or peers, or I am available to try and help during my office hours. Technical issues cannot be used as valid excuses for missing assignments. Make sure to save and back up your work. After submitting work in Canvas, immediately check to see if it is captured as submitted in the dropbox or under grade lists.

**Face Coverings:**All enrolled students in this course are required to properly wear a face covering that covers both the nose and mouth while inside the classroom, regardless of vaccination status. Failure to comply with this requirement represents a potential Code of Student Conduct violation and may be reported as a non-academic violation. Please consult the [Policy on Classroom Behavior (Links to an external site.)](https://sites.auburn.edu/admin/universitypolicies/Policies/PolicyonClassroomBehavior.pdf).

**Attendance:**Attendance is required and taken at each class meeting.

* Class Format: The delivery modality for this course instruction is face-to-face with synchronous meetings on There is no remote attendance option via Zoom for a class meeting on campus.
* Excused absences are granted to students as defined in the Auburn University [*Student Policy* (Links to an external site.)](http://www.auburn.edu/student_info/student_policies/)[*eHandbook* (Links to an external site.)](http://www.auburn.edu/student_info/student_policies/), and include the following: death of an immediate family member, trips for a university-sponsored organization, intercollegiate athletic events, subpoena for court, or religious holiday. When feasible, the student must notify the instructor prior to the occurrence of any excused absence(s), but the student must provide appropriate documentation to the instructor the day the student returns to class and no later than one calendar week from the absence. Appropriate documentation for all excused absences is required.
* In addition, students are excused for medical reasons, such as testing positive for COVID. An official class excuse is required.
* After two unexcused absences (2 hours of class= 1 absence), the final grade will be lowered one letter grade. At the third unexcused absence, the student will have a conference with the elementary education

* Additionally, a budding professional demonstrates consistent attendance and punctuality. You are expected to arrive to class by the start time and stay through the class time. Any combination of tardies or leaving class early that sums to three will be counted as one unexcused absence.

**Make-Up Policy:**

* In-class participation and activities require the student to be present in class meetings; therefore, participation and work completed in class cannot be made up. Students not present cannot earn points for activities completed in class.
* Students with an excused absence are excused (marked in Canvas) from the class participation/in-class assignment and are not Excused assignments/grades neither harm nor help the student’s overall course grade.
* Unexcused absences will receive no points, a zero, for the missed in-class assignment/class
* Arrangements to make up missed major examinations 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 the 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 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 specified by the instructor.

**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. If you have a conflict with my office hours, an alternate time can be arranged. To set up this meeting, please contact me 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).

**Academic Honesty:**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 their 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. All work is to be done individually unless otherwise specified. All submitted assignments are subject to a plagiarism check.

* Cheating, plagiarism, or any other form of academic dishonesty will not be tolerated and will be handled accordingly. Any student who is found committing academic dishonesty on any assignment will receive a grade of zero on that In addition, the student's final grade in the course will be dropped by one letter grade. Neither of these penalties is negotiable. It will be up to the instructor's discretion to take further action based on the perceived severity of the offense.
* All portions of the Auburn University student academic honesty code (Title XII) found in the [Student Policy eHandbook  (Links to an external site.)](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.

**Title IX Statement:**Auburn University is committed to providing an environment free of discrimination and harassment and is equally committed to the principle of equal opportunity in education and employment. The University does not discriminate or tolerate Discrimination or Harassment against individuals on the basis of sex, (sexual orientation, gender identity, and gender expression), race, color, religion, national origin, age, disability, genetic information or protected veteran status

(collectively, “Protected Status”). If you believe you have been the victim of harassment or discrimination based on race, color, religion, national origin, disability, age, or sex (including sexual orientation, gender identity, and gender expression), we encourage you to report it. If you report

sexual assault or sexual misconduct to a faculty member, the faculty member is obligated to notify the University’s Title IX Coordinator about the basic facts of the incident. For more information about Title IX policy against discrimination and harassment, reporting and resource options at Auburn University, please go to: [Title IX (Links to an external site.)](http://www.auburn.edu/titleix)

**Professionalism:**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 take part in discussions. Professionalism is more than simply being physically present in the classroom. In this course you will be expected to treat group members 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.

* 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
	+ Diversity of learners
* Budding professionals use appropriate means for discussions: Please respect our class time together and my own time as a teacher and researcher by planning to discuss grades or other points of discussion/contention during my office hours or by an appointment.
* Budding professionals take responsibility for their learning: My overarching goal is to support class members in becoming the best they can at this point in their professional development. Please allow me to assist in the possible ways including listening, providing feedback, answering questions, addressing concerns, brainstorming, clarifying course content or expectations, and facilitating work with collaborating peers. Email is the surest way to contact me outside of class, and while I do check my email regularly, during my office hours, I will respond immediately to emails, provided I am not meeting with a student at that moment. Outside of office hours, I do not check email after 9 pm on weekdays. Please allow me up to 72 hours to respond to email. If you have an emergency, please call my cell phone (personal number) on the syllabus.
* Additionally, If you are struggling academically with this class, do NOT wait until the end of the semester to ask for Your instructor is here to help you but cannot provide help unless you communicate the problem. You are strongly encouraged to reach out early in the course and follow-up whenever you encounter challenges with the material.

**Course Contingency:**If class meetings are disrupted due to faculty 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 this syllabus and/or course assignments will replace the original materials.

**Guidelines Related to COVID:**Your health and safety and of your classmates are of utmost priorities as we continue to navigate this global pandemic. If you are experiencing any symptoms of COVID- 19, or if you have had a direct exposure, follow the continually updated guidelines on the [COVID Resource Center website (Links to an external site.)](http://auburn.edu/covid-resource-center/reporting/) .

Testing & Vaccination Resources on Campus:

* The [Auburn University Medical Clinic  (Links to an external site.)](https://cws.auburn.edu/aumc/)offers testing for symptomatic or exposed Individuals who are experiencing symptoms consistent with COVID-19 or have had known exposure to someone who has tested positive for the disease should immediately begin the process of self-quarantine and call the Clinic’s COVID-19 line, 334-844-9825, to answer a series of questions and set up an appointment.
* Students are required to self-report positive COVID-19 test results, regardless of where they choose to be tested using the confidential [Self-Report Form (Links to an external site.)](http://aub.ie/covidselfreport). Students who test positive and do not complete the Self-Report Form may be referred to Student Conduct for potential disciplinary
* COVID vaccinations are available on campus. You can find information on vaccines and may schedule an appointment through the [Portal (Links to an external site.)](https://cws.auburn.edu/PharmacyScheduler/).

**Possibility of Transitioning to Remote Instruction:**In the event that the University moves to fully online instruction, please be assured that the learning goals and outcomes of the course will not change; however, some aspects of the course will change in terms of the mode of delivery, participation, and assessment methods. If an announcement is made for remote instruction, I will communicate with the class about course changes and will work with students to revise a course calendar. Please be prepared for this contingency by ensuring that you have access to a computer and high-speed Internet.

* In the **event the instructor tests positive for COVID:**If I am unable to attend our class meeting face-to-face, you will receive notification, and we will transition to a fully online course until I am cleared to If I become ill or am unable to lead the class, a backup instructor will be identified, and they will communicate any changes or updates to the course schedule or mode of instruction as soon as possible.

**Health and Well-Being Resources:**As these are difficult times, personal and academic stress can take a toll and result in increasing effects. If you find yourself in need of any additional supports, the following are resources on campus to assist:

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| Support for Wellness |
| [**COVID Resource Center (Links to an external site.)**](http://auburn.edu/covid-resource-center/) | [Student Counseling and Psychological Services (Links to an external site.)](http://wp.auburn.edu/scs/) |
| [**AU Medical Clinic (Links to an external site.)**](https://cws.auburn.edu/aumc/) | If you or someone you know experience food, housing or financial insecurity, please visit[Auburn Cares Office (Links to an external site.)](http://aucares.auburn.edu/) |

**Tentative Course Content and Topics Outline:***Detailed directions, requirements, rubrics, and listed due dates will be provided for each assignment in Canvas.*

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| Schedule |
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| **Date** | **Topic(s)** |
| **May 19****8-12** | -Introductions, What Is Effective Math Teaching, Teaching Principles & Revisiting the Standards-revisit arithmetic and basic computation—ways to teach and practice* Revisit algorithms- activities and suggestions using concrete and pictorial representations

-Morning routines-For class you need to:1. have read Chapter 1: How to Build a Positive Math Community
2. What would your responses be on the math beliefs inventory questions? What questions and

        thoughts do you have about this?1. What takeaways do you have about nurturing students’ math identity?
2. What takeaways do you have about establishing and maintaining a math community?
3. What takeaways do you have about making math culturally relevant for learners?
4. What takeaways do you have about focusing on student strengths and making the growth mindset a

         reality?1. What takeaways do you have about the math practices?
2. What should your classroom look like?
3. What takeaways do you have about engaging families?
4. complete introductions on Google slides: [https://docs.google.com/presentation/d/1RMAcLdmqpylQhsvFPNvWk9vaB1bEHA858qnRDTSYA4o/edit?usp=sharing (Links to an external site.)](https://docs.google.com/presentation/d/1RMAcLdmqpylQhsvFPNvWk9vaB1bEHA858qnRDTSYA4o/edit?usp=sharing)

 -For homework Read Chapter 2- Write a sentence or two about your thoughts for each section/ question. What does it mean to you? What else do you need to know? What do you want to remember? What questions do you have? |
| **May 23****12:30-4:30pm** | -Revisit lesson plan components and lesson planning;1. Launch, Engage, and Debrief
* Fractions- using virtual, concrete and pictorial representations

-STEM-For Homework Read Chapter 3 |
| **May 24****12:30-4:30pm** | * STEM

-Fractions- Computation* Decimals, Fractions and Percent

For Homework: Read Chapter 4 |
| **June 3****9-3** | Professional Dev’t (PD) |
| **June 6****12:30-4:30pm** | -Equity in the classroom: Asset based teaching-Literature in mathematics and cross-curricular connections-For Homework read Chapter 5 |
| **June 7****12:30-4:30pm** | -Geometry-Measurement-For Homework TBA |
| **June 8****8-12** | Professional Dev’t (PD) |
| **June 8****12:30-4:30** | STEM Education-Data Analysis, Probability-For homework read Chapter 6  |
| **June 9****virtual webinar** | -Differentiation and virtual manipulatives (watch webinar and complete assignment)* For Homework TBA

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| **June 10****12:30-2pm** | * Adapting textbook plans and resources to meet the needs of learners
* Next steps, professional goals, and wrapping up

·      ***Reading and Practice Reflections Journal (60 points)*** |
| **June 13-July 1** | STEM Camp•  ***Lesson Plan 1: Due 5 days after you teach***•  ***Field Placement Forms Due July 2*** |
| **July****Virtual** | Watch 2 webinars and respond with reflections about these (see Canvas for more details) **Due by July 18 at 8am**•  ***Pedagogical Content Knowledge Test Due July 8 8am***•  ***Lesson Plan 2 Due July 15 at 8am***  |

*The Right to Change: The instructor reserves the right to modify the course syllabus, class schedule, alter classroom policies and has freedom to cover course topics at their discretion in order to meet learning objectives, compensate for missed class, or for similar reasons. Students will be notified of any change that affects course structure or has the possibility of altering student outcomes.*