**AUBURN UNIVERSITY**

**COURSE SYLLABUS**

**Instructor: Shannon Brandt -** **sbrandt@auburnschools.org****; 334-319-5485 (c); 887-1990 (o)**

1. **Course Number:** CTEE 7440

 **Course Title:** Curriculumand Teaching in Mathematics (Grades K-6)

 **Course Hours:** 3 semester hours

 **Prerequisites:**  Admission to Graduate Program

 **Corequisites:**  None

**2. Date Syllabus Prepared:** August, 2010

**3. Texts:**

Fosnot, C. T. & Dolk, M. 2001, Book 1 = *Young Mathematicians at Work: Constructing Number Sense, Addition, and Subtraction****.*** Portsmouth, NH: Heinemann

Fosnot, C. T. & Dolk, M. 2001, Book 2 = *Young Mathematicians at Work: Constructing Multiplication & Division****.*** Portsmouth, NH: Heinemann.

Fosnot, C. T. & Dolk, M. 2001, Book 3 = *Young Mathematicians at Work: Constructing Fractions, Decimals, and Percents****.*** Portsmouth, NH: Heinemann

Optional: Ma, Liping. 1999. *Knowing and Teaching Elementary Mathematics*. Mahwah, NJ: Lawrence Erlbaum Associates.

**4. Course Description:**

CTEE 7440 is a graduate level course that emphasizes the principles, current thinking and approaches to the teaching of elementary school mathematics as well as the relationship between teacher pedagogy and students’ mathematical understanding. The purpose of this course is to engage in verbal and mental analysis of the teaching of mathematics at the elementary/middle grade levels. The focus of the course is the study of the teaching/learning relationship in light of recent research and reform in mathematics. The course is based on constructivist notions of learning embedded in mathematics reform efforts. The nontraditional roles of teacher and student are emphasized. Students are expected to exercise the use of their reasoning skills and come up with critical insights into the issues raised in the readings.

**5. Course Objectives**

The course is intended to promote awareness and profound understanding of:

1. Critical issues and current research in the teaching and learning of mathematics.

2. The need for a deep understanding and content knowledge of school mathematics in order to design quality instruction.

3. The contexts used to teach mathematics in order to promote investigation and inquiry.

4. The role of big ideas, strategies, mathematical models, and algorithms in the classroom.

**6. Course Content and Schedule**

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| Class Date | Readings to be Discussed | Assignments Due\* |
| Aug. 18 | “Knowing Mathematics for Teaching” article |  |
| Aug. 25 | NCTM |  |
| Sept. 1 | Fosnot, Book 1- Chapters 1, 2, 3 Strategies, Number Sense, Models |  |
| Sept. 8 | Fosnot, Book 1- Chapters 4, 5, 6 Understanding Place Value |  |
| Sept. 15 | Ma chapter 1 - Math Curricula of Different Countries (subtraction with regrouping) – *text will be provided* |  |
| Sept. 22 | Fosnot, Book 1- Chapters 7, 8 Algorithms using Number Sense |  |
| Sept. 29 | Fosnot, Book 1- Chapters 9, 10 Assessment, Teachers as Mathematicians |  |
| Oct. 6 (midterm) | Fosnot, Book 2- Chapters 3, 4 Developing Whole Number Multiplication and Division (also skim chapters 1-2 which are similar to Book 1) |  |
| Oct. 13 | Ma chapter 2 - Math Curricula of Different Countries (multi-digit multiplication) – *text will be provided* | Take-home midterm |
| Oct. 20 | Fosnot, Book 2- Chapters 5, 6 Developing Models and Number Sense  |  |
| Oct. 27 | Fosnot, Book 2- Chapter 7 Developing Efficient Computation (also skim 8-9 which are similar to Book 1) |  |
| Nov. 3 | Fosnot, Book 3- Chapters 3, 4 Modeling Fractions (also skim Chapters 1, 2) |  |
| Nov. 10 | Fosnot, Book 3- Chapters 5, 6 Number Sense and Fractions |  |
| Nov. 17 | Fosnot, Book 3- Chapters 7 Real World Multiplication and Division of Fractions (also skim Chapters 8-9) |  |
| Nov. 24 | Thanksgiving Break |
| Dec. 1 |  | Final Project |

\*Please record the due dates for each assignment after you have signed up on the class calendar.

**7. Course Requirements/Evaluation:**

* Attend each class session and participate in class discussions (10%)
* Read all assignments and be prepared to reflect on readings; complete reading organizers/reflections/prompts as given (20%)
* Complete technology assignment (5%)
* Complete math literature/cross-curricular assignment (5%)
* Complete article assignment (5%)
* Complete game implementation assignment (5%)
* Complete tutoring reflections (10%)
* Complete a mid-term exam (20%)
* Complete a final exam/project (20%)

Percent Grade

91 - 100 = A

81 - 90 = B

71 - 80 = C

61 - 70 = D

 0 - 60 = F

**8. Course Policy Statements:**

Participation: Students are expected to participate in all class discussions and participate in all exercises. 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.

Cell Phones/Electronic Devices: Students are expected to keep all cell phones on vibrate/silent ring during class time. **No use of electronic devices or text messaging will be permitted. Failure to respect this policy will result in a deduction of class participation points.**

Attendance/Absences Policy: Attendance is required at each class meeting.

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 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 *Tiger Cub* for more information on excused absences.

Unexcused absences: 5 points will be deducted from the final grade for any unexcused absence from class. At 3 unexcused absences students will be referred to the Office of Student Affairs to be withdrawn from the course. Three unexcused tardies (or leaving early) will be counted as one unexcused absence.

Unannounced quizzes: There will be no unannounced quizzes.

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 my office hours, an alternative time can be arranged. To set up this meeting, please contact me by email. Bring a copy of your Accommodation Memo and an Instructor Verification Form to the meeting. If you do not have an Accommodation Memo but need accommodations, make an appointment with the Program for Students with Disabilities at 1244 Haley Center, 844-2096.

Honesty Code: The University Academic Honesty Code and the *Tiger Cub Rules and Regulations* pertaining to Cheating will apply to this class.

Course contingency: If normal class activities 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.

Professionalism: Students in this course and throughout their studies in the Elementary Education Masters program are expected to demonstrate a commitment to the education profession and conduct themselves in a manner that reflects their commitment to becoming a professional educator. This includes demonstrating an ethical behavior, maintaining a positive attitude during and outside of class, being punctual and regularly attend class, being prepared and contributing to the agenda of the course, a willingness to share information and ideas with others, working well with others to develop opportunities for peer and student learning, being honest and trustworthy in all communications and interactions with others, valuing collaboration with other professionals within the schools and demonstrating professional and ethical judgments. As students interact in professional settings, they are expected to demonstrate professional behaviors as defined in the College’s conceptual framework and the Alabama Quality Teaching Standards. These professional commitments or dispositions include, but are not limited to:

* 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

**9. Justification for offering CTEE 7440 as a graduate course:**

 CTEE 7440 focuses on helping graduate students develop in-depth understanding of the relationships among theories of learning, related research in Mathematics Education, and theoretical models of instruction in Mathematics Education. The course also helps students develop more refined insights into issues regarding curriculum and instruction based on these theoretical understandings. In addition, the course promotes students’ abilities to engage in thoughtful and probing inquiry regarding issues of curriculum and instruction.