**AUBURN UNIVERSITY**

**COURSE SYLLABUS**

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

1. **Course Number:** CTEE 7440/7446

**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 2011

**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. 1999/2010. *Knowing and Teaching Elementary Mathematics*. Mahwah, NJ: Lawrence Erlbaum Associates.

**4. Course Description:**

CTEE 7440 is a graduate level, distance 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 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 contribute critical insights into the issues raised in the readings and online posts.

**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 impact of the Common Core Math Curriculum on the teaching of mathematics.

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

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

**6. Course Content and Schedule**

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| Date(s) | Topic | Assignments Due\* |
| Aug. 23 | Face to Face Meeting; order textbook; organize groups; explore www.classpress.com blog site |  |
| Aug. 24 - 30 | Big Issues in Math Education: Mama Writes Math blog  <http://mathmamawrites.blogspot.com/2010/02/sues-top-ten-issues-in-math-education.html> | Post personal response and comment on others: “What do you see as the biggest issues in math education?” |
| Aug. 31 – Sept. 6 | Common Core Curriculum  <http://www.corestandards.org/> | Post personal response and comment on others: “What surprises you about the common core? What do you like/dislike? Compare current curriculum to common core.” |
| Sept. 7 – 13 | Knowing Mathematics article – <http://deepblue.lib.umich.edu/handle/2027.42/65072> | Personal reflection, one page maximum (Email attachment) |
| Sept.14 – 20 | Chapters 1 and 2 of Fosnot and Dolk book | Post personal response to readings of chapters 1 and 2; comment on others’ responses |
| Sept. 21 – 27 | Group post: F/D Book 1, chapters 3, 4, and 5 | Post, as directed |
| Sept. 28 – Oct. 4 | Liping Ma chapter 1;  <http://www.scribd.com/doc/55359191/Liping-Ma-Knowing-and-Teaching-Elementary-Mathematics-Teachers-Understanding-of-Fundamental-Mathematics-in-China-and-the-United-States>  Midterm prompts given | Post, as directed |
| Oct. 5 – Oct. 11 | Group post: F/D Book 1, chapters 6, 7, and 8 | Post, as directed;  Midterm written reflection |
| Oct. 12 – Oct. 18 | Group post: F/D Book 2, chapters 3 and 4 | Post, as directed |
| Oct. 25 | Face to Face Meeting (or written reflection of teaching experience); Final project details given |  |
| Oct. 26 - Nov. 1 | Group post: F/D Book 2, chapters 5, 6, and 7 | Post, as directed; Submit final project topic |
| Nov. 2 - 8 | Group post: F/D Book 3, chapters 3, 4, 5, 6, and 7 | Post, as directed |
| Nov. 9 - 15 | Final two chapters of F/D – “Assessment” and “Teachers as Mathematicians” | Post, as directed |
| Nov. 16 - 28 | Work on Final Presentation |  |
| Nov. 29 | Face to Face Meeting - Final Presentations | Final Presentation |

Assignment details:

“Post, as directed” means that you must visit the classpress blog site several times during the week to comment on the assigned reading, discussion, or prompts. The topic will change each Wednesday, so please spend some time reviewing what has been written for the week each Tuesday, however, do not wait until Tuesday to post your original thoughts.

Group Post project – Each student will choose to read one of Fosnot and Dolk’s three books in the series, “Young Mathematicians at Work.” Students will create groups or partnerships and work together to “teach” the class about the content in their assigned book/chapters. During the group’s week to teach, each group member is responsible to respond to and facilitate thoughtful discussion among the class. Creative ways to present, use of technology, and other “out of the box” thinking is encouraged.

Reflections – Specific details will be given about each reading and reflection. Reflections will be sent via email as attachments.

Final Project/Presentation – Students will choose a topic related to math education to explore. The topic should be of personal interest. Examples of possible ideas and ways to present will be given.

Technology Assignment – During the semester, each student should locate a worthwhile website related to math education. The link along with a summary of the sites’ benefits should be posted to the technology blog page. Students will sign up for their week to post.

Article Assignment – During the semester, each student should locate an article related to current issues in math. A link to the article, along with your reflection, should be posted on a new page under your name (Be Heard tab). You should facilitate responses to the article throughout the week. Students will sign up for their week to post.

**7. Course Requirements/Evaluation:**

* Participate in online class discussions with thoughtful and substantive comments (10%)
* Read all assignments and be prepared to reflect on readings; complete reading organizers/reflections/prompts as given (20%)
* Prepare chapter summary/presentation and help facilitate online discussion (25%)
* Complete technology assignment (5%)
* Complete article assignment (5%)
* Complete a mid-term exam (15%)
* Complete a final exam/project (20%)

Percent Grade

90 - 100 = A

80 - 89 = B

70 - 79 = C

60 - 69 = D

0 - 59 = F

**8. Course Policy Statements:**

Participation: Students are expected to participate in weekly online discussions and posts. Comments should be thoughtful and thought-provoking. Simple “agreement statements” or restating of facts/comments will not count as participation. I will let you know if your comments consistently lack substance.

Attendance/Absences Policy: Attendance is required at each of the three class meetings. If you will not be able to attend, arrangements need to be made with me ahead of time. Appropriate documentation for all excused absences is required. Please see the *Tiger Cub* for more information on excused absences.

Accommodations: Students who need accommodations are asked to arrange a meeting. 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.