

CONCEPTUAL FRAMEWORK

MISSION

The mission of the Auburn University College of Education is to build a better future for individuals, our state, our nation and our world. We fulfill our mission by preparing competent, committed and reflective professionals as we engage in outstanding teaching, cutting-edge research and meaningful outreach.

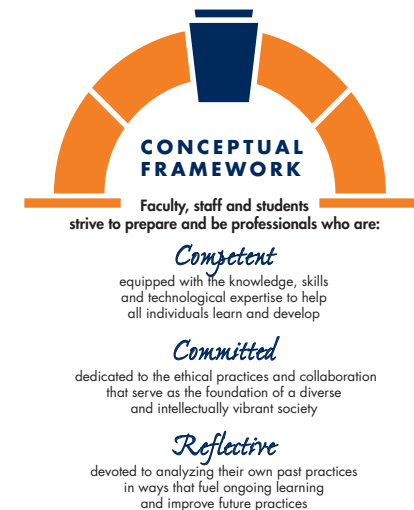
VISION

Our vision is one of transformation. We strive to be and prepare agents of change. We seek to establish and work collaboratively within socially responsive learning communities that value the mosaic of a diverse society. Our vision includes engaging in the continuous learning necessitated by a rapidly advancing world; identifying and addressing critical issues related to the education of all people; and using technology to broaden and support learning opportunities. Ours is a vision of change embracing the inclusive, collaborative and technological aspects of our mission, thereby establishing us as a college representing educational advocacy and innovation in the 21st century.

PHILOSOPHY, PURPOSE AND GOALS

Our philosophy of learning and teaching emphasizes that building a better future for all means creating learning environments for diverse learners that acknowledge the active, collaborative and ever-evolving nature of learning. This philosophy also values teaching that promotes the development of safe, stimulating learning communities enriched with diverse perspectives; is grounded in reasoned and purposeful decision making; and is enacted in proactive, flexible and self-regulating ways.

COLLEGE OF EDUCATION



A Keystone in Building a Better Future for All



The keystone, the topmost stone of an arch, serves as a visual reminder of our mission and our goals. Just as the keystone supports and holds an arch together, education holds intact the promise of a better future for all. We believe that education is the keystone of opportunity and equity in a richly diverse, increasingly technological, and ever-changing world. It is the critical building block that enables individuals and societies to flourish in a global community.

1. **Course Number:** CTSE 7520, Spring 2013
Course Title: Curriculum and Teaching – Mathematics Education
Credit Hours: 3 Semester Hours
Prerequisites/Corequisites: None
2. **Date Syllabus Prepared:** January 5, 2007; Revised January 7, 2013
3. **Texts or Major Resources:**
Alabama State Department of Education. (2010). *Alabama Course of Study: Mathematics*. Montgomery, AL: Author.
Lappan, G., Fey, J. T., Fitzgerald, W. M., Friel, S. N., & Phillips, E. D. (2004). *Stretching and shrinking*. Needham, MA: Pearson Prentice Hall.
Fonzi, J., & Borasi, R. (2002). *Professional development that supports school mathematics reform* (Foundations Monograph No. 3). Arlington, VA: National Science Foundation. Downloaded from <http://www.nsf.gov/pubs/2002/nsf02084/>
National Council of Teachers of Mathematics (1996). *Professional Standards for Teaching Mathematics*. Reston, Va.: Author. Downloaded from <http://www.nctm.org/standards/content.aspx?id=26628>
Stein, M. K., & Smith, M. S. (2011). *5 Practices for Orchestrating Productive Mathematics Discussions*. Reston, VA: NCTM. See <http://www.nctm.org/catalog/product.aspx?id=13953>
Additional articles as assigned.
4. **Course Description:** Nature of learners and of knowledge and implications for building curricula and planning instruction in mathematics education. (AU Bulletin)
5. **Course Objectives:** The following objectives coincide with the goals mentioned above:
 - To become acquainted with the latest research on “best practices” and the underlying theories.
 - To become a more effective and reflective mathematics education practitioner.
 - To develop skills for effective leadership in mathematics education, including:
 - Developing learning communities (face-to-face and on-line)
 - Development and implementation of professional development activities
6. **Tentative Course Content and Schedule:**

Date	Notes	Topic	Major Assignments due
1/15/13		Introduction	
1/22/13	NO CLASS		
1/29/13		Teaching Standards	
2/5/13		Worthwhile Tasks	Initial Teaching Reflection
2/12/13		Discourse	
2/19/13		(cont.)	Issue Brief, topic approval
2/26/13		Environment	
3/5/13		Analysis	Issue Brief, initial literature review
3/12/13	SPRING BREAK		
3/19/13		Evaluating Teaching	Issue Brief, first draft
3/26/13		(cont.)	Draft PWS
4/2/13		Professional Development	
4/9/13		(cont.)	Final Issue Brief
4/16/13	NO CLASS		
4/23/13		Course wrap-up	Final PWS
TBA	EACTM Conference		
4/29/13	7:00-9:30		Final Examination

7. Course Requirements/Evaluation:

A letter grade will be assigned, taking into account the following activities, with the weight for each area given in parentheses. See the corresponding appendices for a detailed description of the activities.

- A. Participation in class activities (20%)
 - Completion of assigned readings and assignments
 - Participation in class discussions
 - Participation in on-line discussions and activities
- B. Issue brief (20% total)
 - Ten-page exploring the literature related to some aspect of teaching mathematics. Please follow APA style!
- C. Reflection on teaching (30%)
 - Learning log (10%)
 - Video-taped lessons with reflections (5%)
 - Preparation of Professional Work Sample (10%)
 - Micro-teaching experience (5%)
- D. Participation in the planning and implementation of a “mini-conference” (15%)
 - General participation in the planning process (5%)
 - Prepare and conduct a workshop on a selected topic, following class plan (10%)
- E. Final examination (15%)

8. Class Policy Statements:

Attendance/Absences: Attendance at scheduled class meetings is required. Unexcused absences will result in a lowering of your course grade.

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 e-mail. 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 (V/TT).

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

DETAILED DESCRIPTIONS OF CLASS ASSIGNMENTS**APPENDIX A. Participation in Course Activities**

Students are expected to attend and participate fully in all course activities.

1. Students should attend and participate in all class meetings.
 - All assigned readings and other activities should be completed prior to the class meeting.
2. Students will be asked to participate in an on-line forum at least once per week.
 - A writing prompt will be announced on Tuesday of each week.
 - Each student should log a response to the prompt by Friday morning.
 - Each student should subsequently respond to *at least* two of the prompts by Tuesday morning.

Note that an informal writing style is appropriate in this context, although reference to course materials is encouraged.

Evaluation of these activities will be based conducted on an on-going basis, based on whether or not the activities were successfully completed.

APPENDIX B. Issue Brief

This consists of a ten-page paper exploring some aspect of mathematics teaching about which you want to learn more.

- The topic should be approved in advanced.
- Upon approval, student will conduct a literature search.
 - Locate a minimum of five high-quality sources
 - At least three should be data-based
- Write a formal paper, following APA style.
 - You will be asked to submit a draft prior to final submission.

APPENDIX C. Reflection on Teaching

1. Each student should maintain a private learning log related to the teaching of a mathematics “class.”
 - The class might be a regular teaching assignment in a K-12 school or a higher education mathematics or mathematics education class, a class which the student visits on at least a weekly basis, or a tutorial situation which meets at least once per week.
 - Each log entry should be about 1-2 pages long and can be written in an informal writing style.
 - You may want to maintain this on a personal blog!
2. Each student should tape two lessons and prepare a reflection on the experience.
 - Video or audio-record a lesson at two points in the semester – one will be at the beginning of the semester, and the other at the end of the semester.
 - Each recording will be shared with at least one other student in the class.
 - Based on review of the recording and discussion with peers, a reflection will be prepared.
 - The second reflection should follow the College of Education “Professional Work Sample” (PWS) format.
3. Micro-teaching experience: Students will present a sample lesson to the class in pairs.

APPENDIX D. Mini-conference

1. Class works as a whole to design the general concept for the mini-conference.
 - Subgroups are formed to work on various aspects of the mini-conference, including publicity, a schedule and program, a location for the event, and an evaluation of the event.
2. Members of the class will design and present a workshop, depending on the conference design.

APPENDIX E. Final Examination

A two-hour final examination will be given following the times set forth in the final exam schedule. The exam will consist of “short response” items that can be answered in a paragraph and “long response” items that require 1-2 pages to answer. All items will be based on class readings and class discussions, with a focus on synthesizing and analyzing the information that has been covered across the course.