

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.

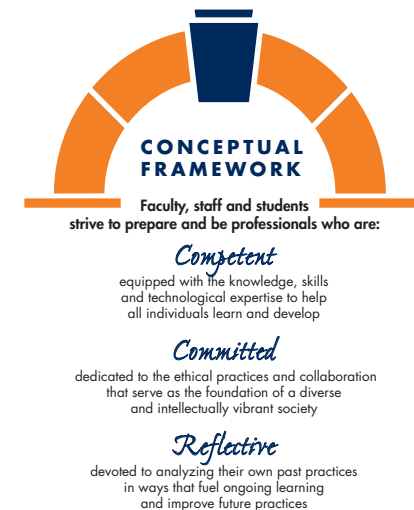
VISION

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: CTEE 7970
Course Title: Technology and Applications in Elementary Mathematics Education
Credit Hours: 3 semester hours
Prerequisites: N/A
Corequisites: None

2. Date Syllabus Prepared: June 2011

3. Texts or Major Resources:

- Hollebrands, K. F. & Lee, H. S. (2011). *Preparing to teach mathematics with technology: An integrated approach to geometry* (draft). Raleigh, NC: North Carolina State University.
- Lee, H. S., Hollebrands, K. F., & Wilson, P. H. (2010). *Preparing to teach mathematics with technology: An integrated approach to data analysis and statistics*. Dubuque, IA: KendallHunt.
- Other course readings as assigned

4. Course Description:

Use of technological tools to enhance mathematics teaching and learning in elementary education.

5. Course Objectives. By the end of this course, students will develop:

- Basic knowledge of calculators and computers and the ability to use them to explore and solve mathematical problems within the elementary school mathematics curriculum – including TinkerPlots, Geometer's Sketchpad, spreadsheets, and calculators.
- Effective use of appropriate technology to support effective learner-centered lessons and units that integrate technology.
- Ability to assess advantages and limitations of current and emerging technologies, and on-line and software content in terms of their potential to facilitate teaching and student learning.
- Use of technology tools to enhance communication among students and colleagues (including blogs, wikis, and social media).
- Ability to use resources for enhancing professional growth using technology.

6. Course Content and Schedule:

DATE	MAJOR TOPICS	MAJOR ASSIGNMENTS
20-June	Intro to Geometer's Sketchpad (GSP); Intro to iPad	
22-June	GSP-Quadrilaterals; Evaluating apps	
27-June	GSP-Transformations; On-line resources	App review #1
29-June	GSP-Symmetry; Documenting student work	
06-July	Intro to TinkerPlots (TP)	Resource review
18-July	TP-Analyzing Data; Other classroom technology	Website review; App review #2
20-July	TP-Probability; Technology in professional development	
25-July	Excel; Calculators; Plans for incorporating technology	Instructional plan
27-July	Course wrap-up	Implementation plan

7. Course Requirements/Evaluation: In achieving the goals of this course, students will:

- Participate in class and complete course readings and activities (30% of class grade)
 - Participate in interactions related class activities and readings using a variety of media
 - Maintain a personal blog with posts on assigned topics and problem solutions
- Complete four reviews of technology use for the classroom to be posted on the class blog (10% each of course grade; 40% total)
 - iPad apps for elementary mathematics (2)
 - An on-line resource
 - A website aimed to elementary mathematics
- Develop plans for integrating technology into practice: (15% each; 30% total)
 - Design of instruction for a particular area of elementary mathematics using technology
 - Design for implementing technology in elementary mathematics – including both practical considerations as well as the “ideal”

Grading. All assignments will be graded on a 4-point scale (4=A; 3=B; 2=C; 1=D; 0=F) and weighted averages will be computed following the percentages given in the previous sections. Final grades will be assigned by rounding to the nearest whole number; i.e., 3.5 and up is an A, 2.5 and up is a B, and so forth.

8. Class Policy Statements:

- Attendance. Each student is expected to attend all classes as scheduled, including lab sessions held off campus. Excused absences for lab sessions in the schools require preapproval by the instructor or university approval as specified in the *Tiger Cub*. The second unexcused absence from class and each succeeding unexcused absence from class will result in a lowering of the student's final grade by one letter grade. Each failure to report for a scheduled lab session in the schools will result in a lowering of the student's final grade by two letter grades.
- 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.
- 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