College of Education
Department of Teacher Education
Spring 2009

Course: MGED 3231A: Mathematics Education for Middle Grades
Time: TR: 1:00 - 2:15, UH 381
Instructor: Dr. Emam Hoosain. **Office**: Room 369 University Hall
Telephone: 667-4507 (Office); 447-8063 (H); **Email**: ehoosain@aug.edu
Office Hours: TR: 10 – 12; 2:30 - 5:30; and by appointment.

Required Text:

1. Van de Walle, John A. (2007). *Elementary and Middle School Mathematics (6th ed.)*. NY: Addison Wesley Longman, Inc.
2. Hoosain, Emam. (2003). *A Concrete, Problem-Solving Approach to the Teaching of Operations on Fractions Using Discrete, Manipulative Materials*. AZ: Scholargy, Inc.

Other relevant publications:

1. National Council of Teachers of Mathematics. (2000). *Principles and Standards for School Mathematics.* Reston, VA: NCTM.
2. Huetinck, L. & Munshin, S. N. (2000). *Teaching Mathematics for the Twenty First Century*. Merrill.
3. Sheffield, Linda J. & Cruikshank, Douglas E. (2000). *Teaching and Learning Elementary and Middle School Mathematics* (4th ed.). NY: John Wiley & Sons, Inc.

***Livetext Membership

Supplementary Readings will be assigned from time to time.

Syllabus

Course Description:
The course focuses on the Principles and Standards of the NCTM and the Georgia Performance Standards (GPS). Teaching and learning strategies relevant to the middle grades are examined.

Conceptual Framework Principles Addressed:

1. Understand how students learn and develop and be able to provide developmentally appropriate learning opportunities that support their intellectual, social and personal development. (CFP 2)
2. Understand how students differ in their approaches to learning and be able to create instructional opportunities that are adapted to diverse learners. (CFP 3)
3. Understand and use a variety of instructional strategies to encourage the learner's development of critical and creative thinking, problem solving and performance skills. (CFP 4)
4. Plan instruction based on knowledge of subject matter, the learners, the community and curriculum goals. (CFP 7)

5. Be a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and actively seeks the opportunity to grow professionally. (CFP 9)

Course Goal:
To provide a framework of:
(a) research-based pedagogical methods,
(b) knowledge of curriculum, instruction, and assessment issues and resources in mathematics education, and
(c) practical experience

that will enable the students to:
(a) determine their belief system concerning mathematics education;
(b) develop confidence in their ability to manage the instructional process; and
(c) formulate a plan for their continued professional development.

Specific Objectives:
1. The students will demonstrate a knowledge of:
   (a) NCTM's Standards documents;
   (b) Georgia Performance Standards in Mathematics, 6 - 8.
2. They will:
   (a) develop curricula;
   (b) define learning goals for teaching units;
   (c) unpack standards;
   (d) prepare learning activities for the appropriate grades;
   (e) develop teaching strategies for topics in math; and
   (f) assess student achievement
   consistent with NCTM's *Principles and Standards* and the Georgia Performance Standards in mathematics.
3. Students will gain practical experience by:
   (a) observing classrooms; and
   (b) evaluating lessons for the classes observed.

Course Outline:
Tentative Schedule
Week 1: Introductions: Instructor, Students, and Course
Week 2: Big Ideas in the Teaching of Mathematics
Week 3: Overview of the NCTM and the Georgia Performance Standards
Week 4: Induction, Deduction, & Multiple Representation
Week 5: Number & Operations, Estimation & Computation
Week 6: Algebra
Week 7: Geometry
Week 8: Measurement
Week 9: Data Analysis and Probability
Week 10: Monitoring student progress and evaluating achievement

Laboratory Experience: 2/16 - 2/20; 3/16 - 4/17
Spring Break: 4/6 – 4/10

Whenever possible and appropriate, the use of technology (e.g., graphing calculators, geometer's sketchpad) will be demonstrated and incorporated in presentations.

Evaluation

Course Grading Procedure:

1. Pedagogical Knowledge **100 pts.**

Class Participation and Attendance	20 "
Examinations (Mid-Term [2/26] and Final [5/5, 1 - 3]) Exams will be based on what has been done in class and assigned readings.	80 "

2. Pedagogical Application **75 pts.**

Unpacking a Standard (TBA) (CFP 7)	15 pts.
Planning Learning Activities (Ongoing) [Inductive & Deductive Reasoning (CFP 4); Multiple Representation (CFP 2)]	15 pts.
ISL (**4/24**) [5 points for Draft and discussion] (CFP 7)	45 pts.

3. Observation Report (4/24) (CFP 4) **55 pts.**

Please refer to the attached guidelines which should be followed to the letter. The focus is on the teaching of mathematics.

3. Journal (Typed [1 – 2 pgs.] and submitted: 1/27; 2/10; 3/3; 3/12) (CFP 9) **20 "**

The Journal can be descriptive, reflective, and critical and may contain summaries of class proceedings and readings, what you are or are not learning, what you will like to learn, applicability of what you are learning to the classroom, etc. A grade will be awarded for each. Feedback will be provided on each Journal. **Livetext must be used to create and submit these Journals and all assignments and reports.**

5. Impromptu Assignments (e.g. Summarize a journal article.) **15 "**

More detailed directions about assignments will be given in class, if necessary. If you are unsure of what is required, you are advised to meet with the Instructor individually or in small groups.

Note: All dates are tentative. A passing grade (at least a C) for the Lab Experience (Observation and ISL) must be obtained in order to pass the course.

Note: Students are required to attend classes regularly and punctually. If a student is absent for more than **two** times, he/she may be asked to withdraw from the class. Unsatisfactory attendance of classes and participation in class activities will adversely affect your final grade. It is the student's responsibility to complete any task assigned during his/her absence. **Points may be deducted for late submission of assignments** -

10% for every day it is late. Points will be deducted for grammatical and other errors in written assignments. All assignments should be typed double-spaced. You are advised to complete the readings and assignments, meet regularly with other students to discuss issues, and see the Instructor if you have any problems. Examinations could be in-class, take-home, or both. Requests to take an exam before or after the scheduled time, etc. should be made (in writing) only in cases of absolute necessity. Please refrain from bringing (except in your stomach) any form of food or drink to the classroom. If you do, there should be no eating or drinking in class (except with the Instructor's permission); and please turn off your cell phone. Children and other relations are not allowed in class. Occasionally, the Instructor may communicate with you via your Pipeline email address, or the Announcement facility of Livetext. You are advised to check Livetext and read your campus email regularly. Unless otherwise agreed upon (between you and the Instructor), assignments should not be submitted as email attachments. Students with disabilities need to contact ASU's Office of Disability at (706) 737-1469 to discuss appropriate accommodations. Students are strongly advised to read the section on "Academic Honesty" in the University Catalog.

Final grading will be as follows:

A: 90^{+} - 100
B: 80^{+} - 90
C: 70^{+} - 80
D: 60^{+} - 70
F: 00 - 60