

Math 5001/7001  
Arithmetic and Problem Solving  
Spring 2006

**Instructor:** Cherilyn Rumely

**Phone:** 542-2645(W); 543-0443(H)

**Office:** 328B, Boyd Graduate Studies

**Email:** [crumely@math.uga.edu](mailto:crumely@math.uga.edu)  
[crumely@earthlink.net](mailto:crumely@earthlink.net)

**Office Hours:** MW → 9 a.m. – 10a.m.  
MWF → 11:15 a.m. – 12:05 p.m.  
Other hours by appointment, but gladly

**Important Dates:** Jan. 9 – 12: Drop/Add  
Jan. 16: MLK, Jr. holiday  
March 7: Midpoint withdrawal date. Any withdrawal on or before this date will result in a “W”. Any withdrawal after this date will result in a “WF”, except for extreme circumstances which have been documented **prior to** the completion of the course.

**Text:** *Mathematics for Elementary Teachers* and the accompanying *Class Activities* manual by Sybilla Beckmann

**Course Description**

A deep examination of topics in mathematics that are relevant for elementary school teaching: Problem solving, Number systems: whole numbers, integers, rational numbers and real numbers and the relationships between these systems, Understanding multiplication and division, including why standard computational algorithms work, Properties of arithmetic, and Applications of elementary mathematics

**Course Objectives:** To strengthen and deepen knowledge and understanding of arithmetic and how it is used to solve a wide variety of problems; In particular, to strengthen the understanding of and the ability to explain why various procedures from arithmetic work; To strengthen the ability to communicate clearly about mathematics, both orally and in writing; To promote the exploration and explanation of mathematical phenomena; To show that many problems can be solved in a variety of ways.

**Materials:** Basic calculator (no programmable calculators allowed)

**Grades:** There will be 4 major tests during the course and a 3-hour comprehensive final exam. Homework will be assigned daily, some to be done just for yourself and some to be graded. Quizzes will also be given throughout the course. The course average for those students in Math 5001 will be determined using the following weights:

Major tests → 50%  
Homework/quizzes → 25%  
Final exam → 25%

For those students in Math 7001: Students must complete an additional course project. The project could consist of several essays or one longer paper in which the student

discusses some aspect of the course material in depth, or in which the student relates the course material to their future teaching (e.g. with a collection of lesson plans). Other creative ideas could also be acceptable. Grade weights will be: Tests → 45%, Quizzes → 20%, Project → 10%, Final Exam → 25%

**Tentative Test Dates:** Test 1 – Feb. 10  
Test 2 – March 1  
Test 3 – March 31  
Test 4 – April 26  
Final Exam – May 5: 8 a.m. – 11 a.m.

**Homework/Quizzes:** It is essential that you do all reading and attempt all assigned problems before the next class. Late homework will not be accepted, and no make-up quizzes will be given. The lowest homework score and the two lowest quiz scores will be dropped to compensate for illness or emergencies. You are encouraged to work on assignments with fellow classmates, but you must always write up your homework on your own, using your own words to express the ideas you have discussed with others. Do not allow anyone to copy your work. When you discuss assignments with others, all participants should contribute.

When homework is graded, your grade will be determined by the extent to which it meets the following criteria:

- ❖ The explanation is factually correct, or nearly so, with only minor flaws, such as a computational mistake in a calculation.
- ❖ The explanation addresses the question or problem posed. It is focused, detailed and precise.
- ❖ Clear, complete sentences are used.
- ❖ The explanation is clear, convincing and logical. Key points are emphasized. If applicable, pictures and/or diagrams are used appropriately. The explanation is coherent and does not require the reader to make a “leap of faith”. It could be used to convince a skeptic, or to teach another college student, possibly one not in the class.

**Academic Honesty:** All students are expected to adhere to the standards contained in “A Culture of Honesty”. Students are responsible for informing themselves about those standards before performing any academic work. In case of suspected violations, procedures as outlined by the Academic Honesty Policy of the University of Georgia and described in <http://www.uga.edu/oypi/honesty/main.html> will be followed.

**Attendance:** Attendance will be taken daily starting Friday, January 13. Students with more than 3 unexcused absences before midterm will be withdrawn from the class. After midterm, each unexcused absence beyond 3 will result in a .5 point deduction in the final grade. Absences must be justified shortly after returning to class in order to be excused. Excuses brought in at the end of the course will not be accepted. Please make every effort to be in class on time as tardies are disruptive.

**Disclaimer:** The instructor reserves the right to change any of the details of this syllabus, as needed and upon notification to students.