Mathematics 202
Spring Semester, 2004
Mathematics Problem-Solving for Elementary Teachers

Textbook:	*Mathematical Reasoning for Elementary Teachers*, 3rd edition, by C.T. Long and D.W DeTemple	
Prerequisite:	C or better in MA 201.	
Times:	8-9:15 am	9:30-10:45 am
Rooms:	CB 341	CB 343
Sections:	001	002
Instructor:	Jessica Cunningham	
Office:	702 Patterson Office Tower	
Phone:	257-6804	
Email:	jvirgin@ms.uky.edu	
Office hours:	11am-12pm MWF	

Contacting me
A very good way to communicate with me regularly is by email or during office hours. Please feel free to ask me about any matter pertaining to the course. I check my email every day, excluding the weekend. There may be times when I don't get back to you within 24 hours.

Course goals
Developing **problem-solving** skills is a main theme of the course. Learning how to solve problems requires time and effort. Be prepared to spend 5 - 8 hours per week solving homework problems and otherwise preparing for the course.
Goal 1 (50 %) Understand the content of the course: algebra, statistics, geometry, and measurement.
Goal 2 (25%) Be able to explain the topics, at an appropriate level to an elementary (or middle) school.
Goal 3 (15%) Be familiar with the use of manipulatives and technology in the K-8 classroom. Be familiar with the content and testing of the K-8 curriculum.
Goal 4 (10 %) Use basic arithmetic and algebra skills correctly and confidently.

Course overview
We will cover most of the material from Chapters 8 through 12. A paced syllabus is included in the syllabus.

Grading policy

*12 **homework** assignments, 20 points each, lowest two dropped: **(2 HW assignments will involve student presentation of group work—you will not be permitted to drop these grades)**	**200** points
*3 evening **exams**, each worth 150 points. **Suppose your final exam score is K. If K/2 is greater than your lowest exam evening exam score, then K/2 will replace that lowest exam score.**	**450** points

*4 quizzes, each worth 20 points: lowest quiz dropped		**60** points
***Final** exam, worth 300 points		**300** points
Final grade	A	900 or higher
	B	800-899
	C	700-799
	D	600-699
	E	below 600

Calculators
You are required to have a scientific calculator. Use of the calculator will be permitted on **selected** portions of quizzes and tests.

Grading the homework:
You can work with fellow students on homework. Follow these two guidelines:

a. Homework **write-up** but must done by you. It should not be done in the presence of anyone with you have worked on the problem(s). However you are more than welcome to work on any problem with others.

b. Homework will be turned in at the beginning of class on the date due. **No late homework** will be accepted **unless** you provide documented evidence of an illness or some other serious matter.

c. Homework will not be accepted torn out of a spiral notebook. Homework turned in with no name will receive a zero.

Each homework assignment is worth 20 points. 50% (ten points) is determined by how much of the assignment was completed in a coherent, reasonably neat manner. The other 50% is determined by the performance on problems selected for grading. Not every problem will be graded; typically 2 or 3 problems are selected for grading. Partial credit will be given for partially correct problems. Things to keep in mind:

1. The problems should be submitted in the order in which they are listed in the assignment. They should be written legibly.
2. Write first drafts for each problem, but write a final draft for submission. Points will be subtracted if it is obvious the solution needed further editing.
3. On specified problems, *full-explanation problems*, you will be required to provide full explanation. You will explain how you arrived at your solution and the justification(s) for each step in your procedure. The solutions should have proper English grammar and spelling.
4. For many (though not all) problems, including labeled diagram(s) is a good idea.

Attendance
Attendance is required to do well in this course. Please send me an email if you have to miss a class. If you miss a class without prior notification, please send an explanation by email.

Plagiarism, cheating
If there is reason to believe you have copied work without acknowledgement, you will be subject to academic discipline. With regard to homework cooperation, see the guidelines above.

WEEK	SECTION	COMMENTS
12-Jan	8.1	Algebraic Expressions and Equations, Review of Fractions and Decimals
19-Jan	8.2	Introduction to Functions; HW #1 Section 8.1 and review due 1/22
26-Jan	8.3	Cartesian Coordinates, Graphing Functions; HW # 2 Section 8.2 Due 1/27
2-Feb	9.1	Graphical representation of data; HW #3 Section 8.3 Due 2/3; Quiz 1
9-Feb		HW #4 Section 9.1 Due 2/10; **Exam 1: 2/10,5-7pm. (Chp 8, fractions, decimals, ratios, percents, manipulative use)** CB118
	9.2-9.3	Measures of Central tendency, deviation, statistical inference
16-Feb	10.1	Empirical Probability; HW #5 Sections 9.2-9.3 Due 2/17
23-Feb	10.2	Counting Techniques; HW #6 Section 10.1 Due 2/22
1-Mar	10.3	Theoretical Probability; HW #7 Section 10.2 Due 3/2 Quiz #2
8-Mar		**Exam 2 Tuesday: 3/9,5-7pm (Chp 9 and 10)** CB118
	11.1-11.2	Points, Lines, Angles,Curves, Polygons
15-Mar		Spring Break
22-Mar	11.3	3-d Geometric Figures; HW #8 Sections 11.1-11.2 Due 3/23
29-Mar	11.4	Networks, Intro to Geometer's Sketchpad; HW #9 Section 11.3 Due 3/30
5-Apr	12.1-12.2	Measurement procedures, Area and Perimeter; HW #10 Section 11.4 Due 4/6 Quiz #3
12-Apr	12.3-12.4	Pythagorean Thm, Surface Area and Volume; HW #11 Sections 12.1-12.2 Due 4/13 Quiz #3
19-Apr		**Exam 3 Tuesday 4/13,5-7pm (Chp 11,12.1-12.3)** **Sections 12.3-12.4 Group presentations (Thursday)** CB118
26-Apr		Group presentations; Quiz 4; HW #12 Sections 12.3-12.4 Due 4/27
2-May		REVIEW FOR FINAL