

**COURSE:** Math 2010-01, Math for Elem. Teachers I, MW 1:00 ~ 2:15 PM  
Room Number: NIB 150 3 credit hours

**INSTRUCTOR:** Dr. Clare Banks, [banks@dixie.edu](mailto:banks@dixie.edu)  
*Office:* NIB 138 *Phone:* 652-7982  
*Office Hours:* MTWR 9 ~ 9:50, F 10:00~10:50 and by appointment.

**REQUIRED :** Musser, G., Burger, W., & Peterson, B.(2006), *Mathematics for*  
**TEXT** *Elementary School Teachers: A Contemporary Approach* (7<sup>th</sup> ed.) John Wiley & Sons, Inc.

Ma, L. (1999), *Knowing and Teaching Elementary Mathematics*. NJ: LEA

**OBJECTIVES:** All classes in mathematics at Dixie College support the general education goals of the college. Each class will:

- Require students to perform mathematical processes including fractions, percentages, decimals, proportions/ratios, algebraic equations and/or calculus techniques.
- Provide students with application problems that use a variety of methods including arithmetical, algebraic and geometric methods.
- Challenge students to make inferences from mathematical models that include formulas, graphs and tables.
- Provide students with real-life applications that use a variety of mathematical functions.

Upon successful completion of Math 2010, a student will demonstrate through testing the ability to:

- Identify and apply a sound problem solving process to a variety of mathematical problems involving elementary arithmetic operations.
- Describe and apply a variety of problem solving strategies to individual problems.
- Identify and apply instructional algorithms to basic arithmetic operations.
- Demonstrate elementary arithmetic algorithms using manipulative that include: mats, strips, units, sets, blocks, and bars.

**PREREQUISITES:** C or better in Math 1050/1050E, or the equivalent.

**CALCULATOR:** Dr. Banks will be using the TI-83 Plus to work on some of the problems in class. You are encouraged to use a calculator to assist with your work in class as well as on homework assignments. However, you must be able to simplify and solve problems with pencil and paper methods as calculators are not allowed on some of your exams.

**DISABILITIES:** If you are a student with a physical or mental impairment and would like to request accommodation, please contact the Disability Resource Center (DRC) 652-7516 in SSC Room 201. The DRC will determine your eligibility for services based upon complete professional documentation. If you are deemed eligible, the DRC will further evaluate the effectiveness of your accommodation requests and will authorize reasonable accommodations that are appropriate for your disability.

**DISHONESTY:** If it is determined that you cheated, you will receive a zero for that exam. If cheating occurs a second time, you will receive an F for the course.

**GRADING POLICY/SCALE:** The course grade and weights are given below.

Math Autobiography	10 points		
Homework	40 points	<u>Percent</u>	<u>Percent</u>
Book Report	35 points	94-100 = A	72-76 = C
Observations	45 points	90-93 = A-	69-71 = C-
Portfolio	10 points	87-89 = B+	66-69 = D+
Project	30 points	83-86 = B	60-65 = D
Participation/Attendance	30 points	80-82 = B-	55-59 = D-
Three Exams	300 points	77-79 = C+	< 55 = F
Final Exam	100 points		

**HELP:** I am available during my office hours and by appointment. Browning Resource Center also has tutors available.

**SUCCESS:** The teaching of elementary school mathematics is no longer focused on computational skills; instead the focus is on understanding, communication, and reasoning. As you are preparing yourselves to become successful teachers you can not settle for using rules and formulas to find your answers. You must work until you understand and are able to justify your answers. You should come to class ready to share your ideas, explore and reflect with your classmates, make mistakes and ask questions. This course requires a variety of work to be completed both in and outside of the classroom. ***Expect to spend at least 8 hours per week to study for what may be the most important mathematics course of your career.***

## **ASSIGNMENTS:**

### ***1. Homework***

Homework will be assigned and collected regularly. Late homework will not be accepted. The homework may be graded or just checked off. You are expected to turn in homework that is written neatly and shows all essential work. If Dr. Banks has trouble reading any one of your answers, then the homework will be returned with a zero for that section. (You are either getting a check mark for full score, or a zero score for each section) Clearly label your homework with chapter and section numbers. Start each section with a clean page.

### ***2. Book Report***

You are required to read according to the schedule assigned chapters from Li-Ping Ma's book and have a group discussion. After the discussion, Dr. Banks will assign 2-5 questions for you to write an individual report. You will have one week in which to complete and turn in each report.

### ***3. Mathematics Autobiography***

"If you can express yourself in writing then you understand what you are doing." – Ted Panitz.  
Yes, writing in Math. Writing your own mathematics autobiography will help you understand your strengths and weaknesses in mathematics and further help you prepare for the teaching of mathematics. More details will be in your hand-out.

#### ***4. Classroom Observation***

You are required to do 15 hours of observations with at least 2 different teachers. You can choose to do your observations from the following schools in the Washington county school district. You need to fill out an observation form for each hour you observe, completing all three sections of the form each time. If you find that you are repeating yourself in your observations, you should find a different teacher to do observations with. These observation experiences should be done at an appropriate level of instruction.

<u>School</u>	<u>Address</u>	<u>Area</u>	<u>Phone #</u>
West Elementary	12 N 300 W	West St. George	628-4427
Bloomington Elementary	425 Man of War Road	Bloomington	673-6266
Bloomington Hills Elem.	919 E Brigham Road	Bloomington Hills	674-6495
Riverside Elementary	2500 S. Harvest Lane	Washington Fields	652-4760
Panorama Elementary	301 N 2200 E	East St. George	628-6881
Red Mountain Elementary	263 E 200 S	Ivins	656-3802
Dixie Downs Elementary	1795 W 1230 N	Dixie Downs	673-8978
Fossil Ridge Interm.	383 S. Mall Drive	East St. George	652-4706

*\*Any Middle School*

#### ***5. Portfolio***

Each student needs to prepare a three-ring binder, which includes all material received from the teacher or classmates, your homework assignments, and materials collected that are related to the class. Use section dividers and name each section. The portfolio will be graded on appearance as well as content.

In the portfolio, you need at least 5 dividers labeled: Class Notes, Homework, Book Report, Classroom Observations, and Exams. Portfolio evaluations will be done in class during the scheduled final exam period.

#### ***6. Project***

Projects will be explained as assigned.

#### ***7. Examinations***

There will be three chapter exams as well as a comprehensive final exam.

#### ***8. Attendance/Participation***

Students that are tardy, leave class early, or are unwilling to participate in class activities will be considered absent and will not get participation points. Missed in-class work and activities cannot be made up. Students who miss no more than two classes (excused or unexcused), will have the option of having their final exam score also count for and replace one exam grade.

Weekly Schedule (Tentative)

Dates	Lessons	Homework
Aug 22	Intro, 1-1	
Aug 27	1-1, 1-2	
Aug 29	2-1	Read Ma Chapter 1, 1-1, 1-2
Sep 3	Labor Day, no class	
Sep 5	2-2	Ma Chap 1 Report due, 2-1, Obs agreement
Sep 10	2-3	
Sep 12	3-1	2-2, 2-3
Sep 17	3-2	
Sep 19	3-3	Read Ma Chap 2, 3-1, 3-2
Sep 24	<b>Exam 1</b>	
Sep 26	4-1	Ma Chap 2 Report due, 3-3
Oct 1	4-2	
Oct 3	4-3	Read Ma Chap 3, 4-1, 4-2
Oct 8	5-1	Ma Chap 3 Report due
Oct 10	5-2	4-3
Oct 15	6-1	
Oct 17	6-2	Read Ma Chap 5, 5-1, 5-2
Oct 22	6-3	Ma Chap 5 Report due
Oct 24	<b>Exam 2</b>	6-1, 6-2, 6-3
Oct 29	7-1	
Oct 31	7-2	Autobiography
Nov 5	7-3	
Nov 7	7-4	Read Ma Chap 6, 7-1, 7-2
Nov 12	8-1	Ma Chap 6 Report due
Nov 14	8-2	7-3, 7-4
Nov 19	9-1	
Nov 21	Thanksgiving, no class	
Nov 26	9-2	8-1, 8-2, 9-1
Nov 28	<b>Exam 3</b>	9-2
Dec 3	Project presentation	Observation forms
Dec 5	Project presentation	
Dec 10	<b>Final Exam</b> 12~2 PM	Portfolio

Other Important Dates:

Aug 23 Last day to add classes without instructor permit  
 Sep 18 Last day to add classes  
 Oct 16 Last day to drop classes  
 Nov 13 Last day for complete withdrawal

Extra Final Review:

Dec 7 1 ~ 2:15 PM

## Homework Assignments

- (1) 1.1 A #1-5 all, 7, 11, 12, 13, 15, 16, 18 B #13, 17, 18 pg 20 #3
- (2) 1.2 A #1, 2, 3, 5, 6, 8, 10, 11, 13, 17, 21 B #7, 13 pg 37 #3
- (3) 2.1 A #1-5 all, 7-14 all, 18, 19, 20, 30, 31, 36, 37
- (4) 2.2 A #1, 4-13 all, 15, 18, 19 B # 8-12 all, 14, 18
- (5) 2.3 A #1-5 all, 7, 9-14 all, 17, 18, 21, 22 B # 22, 23
- (6) 3.1 A #1-8 all, 10-14 all, 18, 19 B #8, 12, 13 pg 119 #1
- (7) 3.2 A #1-9 all, 11, 12, 14, 17, 20, 22, 28 B #1, 2, 14, 15, 29 pg 135 #3
- (8) 3.3 A #1-9 all, 11, 12 B #6, 7, 9, 11 pg 144 #1
- (9) 4.1 A #1-5 all, 7-11 all, 15, 16, 18 B #1-4 all, 9, 20, 38
- (10) 4.2 A #1-3 all, 5, 7, 11, 15-18 all, 20, 23, 31 B #1, 11, 12, 13, 15, 18 pg 185 #1
- (11) 4.3 A #1-6 all, 9, 10, 12, 14 B #1-7 all, 9 pg 191 #3
- (12) 5.1 A #2-9 all, 11, 17, 23, 34 B #2, 3, 9, 11
- (13) 5.2 A #1, 4, 6-9 all, 20 B #3, 4, 6, 7, 8
- (14) 6.1 A #1-4 all, 6-11 all, 13, 16, 17, 18, 20, 21, 22 B # 1, 2, 14, 17
- (15) 6.2 A #1, 3-9 all, 11, 16-19 all, 21 B #1, 2, 3, 7, 16, 17, 19 pg 258 #4
- (16) 6.3 A #1-4 all, 6, 8, 9, 10, 15, 20, 22, 24-27 all, 30, 31 B #1, 2, 3, 4, 11, 17
- (17) 7.1 A #1-7 all, 9, 10, 12, 17, 19 B #5, 6, 19 pg 290 #3
- (18) 7.2 A #1, 2, 4-7 all, 10, 12, 16, 17, 24-27 all B #5, 10, 18, 31 pg 301 #2
- (19) 7.3 A #1, 3, 4, 6, 7, 8, 11-15 all, 21, 27, 31 B #1, 5, 16, 25
- (20) 7.4 A #1-5 all, 8, 13, 15, 18-21 all, 24, 25, 27, 29, 30, 38 B #17, 20, 21, 26
- (21) 8.1 A #1, 3-6 all, 8, 9, 10, 12, 14-17 all, 19, 25 B #3, 4, 5, 12, 16, 17, 19
- (22) 8.2 A #1-4 all, 6, 7, 9, 12, 15, 19, 20, 21, 27, 32 B #1-4 all, 8, 9 pg 364 #1
- (23) 9.1 A #1-11 all, 13, 15, 17, 18, 19 B #2, 4-9 all
- (24) 9.2 A #1-7 all, 9, 15, 16, 19, 22, 23, 29, 36, 37 B #1, 2, 3, 5, 6, 7

**Warning: I reserve the right to make changes to the syllabus at any time during the term by announcing them in class.**