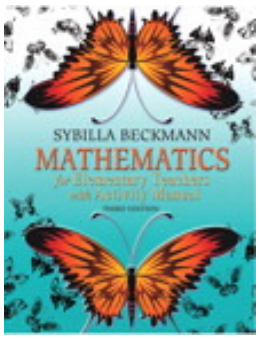
Math 10A – Spring 2013	MTWTH 1:00 – 2:15
Mrs. Maria Kelly *(email: maria.kelly@reedleycollege.edu)*	Room: CCI 200
Office: Fem – 1C	Ext: 3208
Hours: M,T,W,TH 9:00 – 10:00, F 10:00-11:00	

STRUCTURES AND CONCEPTS IN MATHEMATICS I

COURSE DESCRIPTION: This course is designed for prospective elementary school teachers. It will study problem solving strategies and skills, number sequences, set theory, ancient numeration systems, number theory, rational and irrational numbers, computation algorithms, and applications of mathematics.

OBJECTIVE: To acquaint future teachers with the mathematics content and problem solving strategies relevant to teaching in grades Kindergarten through eighth grade.

REQUIRED TEXT: Sybilla Beckman, Mathematics for Elementary Teachers *with* Activity Manual, Pearson Addison-Wesley, 2011



MATERIALS REQUIRED:

- Scissors
- Colored Pencils/Highlighter Pens
- Glue Stick/Tape
- Straightedge
- 3-ring binder
- Calculator

Attendance: Attendance is **not optional**. Students are expected to attend all class meetings, be on time, and be in class the entire class session. **Two tardies can be counted as an absence**. **Four (4) absences** may result in a drop from the course. However, if you decide to drop the course, it is **your** responsibility to make the drop official in the Admissions and Records office or else possibly receive a grade of **F**.

TESTS: Four to five tests, worth 100 points each, will be given. There are **NO MAKEUPS** for missed tests. **NO EXCEPTIONS**!! *If you absolutely must be absent on the day a test is scheduled, you may discuss with me the possibility of taking the test **early**.*

HOMEWORK: Homework will be assigned on a daily basis. Assignments will be collected **at the** beginning of the next class session. **All work must be shown** in order to receive credit and all work must be neat, concise and clearly labeled. Each assignment will be worth 10 points. **NO LATE HOMEWORK WILL BE ACCEPTED!** *Note: Being absent the day homework is collected does **not** entitle you to turn it in late!*

QUIZZES: There will be **random** in-class **homework/notes quizzes**. These quizzes will be worth 10 points each and will be given **during either during the first or last 10 minutes of class**. Any students who are not in their seats when the quiz is handed out **will not** be allowed to take the quiz and will receive a grade of zero for that quiz. There will be no makeup quizzes for students coming in late or leaving early on the day a quiz is given or for students absent on the day of a quiz.

CLASSWORK: How much you get out of this class will really depend on how much you contribute to the class. Much of this class will involve working in groups, participating in classroom discussion, and presenting problems on the board in front of your peers.

FINAL EXAM: A two hour comprehensive final exam worth 100 points will be given at the end of the 9-week session. This final exam will count as an exam score and it may be used to replace a low test score but may not be used to replace the homework, classwork, or quiz grades.

GRADING:

- **Homework** will represent 25% of the final course grade.
- **Quizzes and Classwork** will represent 25% of the final course grade.
- The **chapter exams and the final exam** will represent 50% of the final course grade.

  Example: If your homework average is 90, the average of your quizzes and projects is 75 and the average of your chapter exams and final is 78, then you would compute your grade as follows:

  (.25)(90) +(.25)(75)+(.50)(78)= 22.5+18.75+39 = 80.25

- Your grade will then be determined by the following **grading scale**:

90 – 100% = A
80 – 89% = B
67 – 79% = C
55 – 66% = D
0 – 54% = F

Important Dates:

- ***January 16, 2013 –Last Day to Add***
- ***January 21, 2013 – MLK Holiday***
- ***January 23, 2013 – Last day to file for Pass/No-Pass grading basis***
- ***February 1, 2013 – Last day to drop***
- ***FINAL EXAM DATE: March 7, 2013, 1:00 – 2:50***

Academic Dishonesty: Academic dishonesty in any form is a very serious offense and will incur serious consequences, including but not limited to receiving a grade of F in the course. For the college policy on cheating and plagiarism, see the college catalog.

NOTE: *If you have a verified need for an academic accommodation or materials in alternate media per the Americans with Disabilities Act or Section 504 of the Rehabilitation Act, please contact me as soon as possible.*

Course Objectives

Students will be evaluated on completion of the following objectives. In the process of completing this course, students will:

A. Apply inductive and deductive reasoning to solve various types of problems using a variety of problem solving methods including, but not limited to, making a table, looking for a pattern, draw a picture, work backwards, guess and check and algebraic equations.

B. Use set theory and Venn diagrams to model information

C. Study ancient numeration systems and positional systems other than base ten in order to appreciate the historical foundation of mathematics and to understand the basis and merit of our base ten numeration system.

D. Learn and apply basic properties of number theory to solve problems.

E. Develop an understanding of the set of rational numbers as a subset of the reals and the algorithms used to perform operations on the rational numbers.

F. Understand the relationship between rational and irrational decimal numbers and the basis for the algorithms used to perform operations on decimal numbers.

G. Apply the concepts of decimals, ratios and proportions to solve application problems.