**MATH 2250**

**Explorations in Geometry for Elementary and Middle School teachers (3)**

**< Semester, Year>**

**< Days, Time, Location>**

**Instructor:** <name>

**Office:**  < number only if you have an actual office>

**Office hours:** < office hours and location>

**Email:**  < university email address>

**Prerequisite:**A college level mathematics course with a minimum grade C.

**Date and time of final exam:**

**Textbook:**

*MATHEMATICS: A Problem-Solving Approach for Elementary School Teachers,*12th ed, by Billstein Libeskind and Lott, Pearson/Addison Wesley

If you already purchased an access code for this text for either Math 1100 or 1150, then you don’t need purchase anything. Otherwise, you have the following options for the textbook:

Option 1: Paper Book ISBN-13:9780321756664

Option 2: Mymathlab access code (which includes the e-text) at the bookstore, the Bookmark, or at www.mymathlab.com.

**Required Material: Math tool Kit- including a ruler, a compass and a protractor**

**Topical outline:  We will cover Chapter 11 to 14 in the textbook.** Topics include properties of two- and three-dimensional figures, measurement, constructions, structure, spatial relationships, transformations, and graph theory presented through multiple teaching modes. No credit for mathematics majors.

**Nature**: Definitions, notations, theorems, and classroom activities play an important role in the class. Thorough understanding, thinking, and participating are critical to master the material.

**Student Learning Outcomes**:  Students who successfully complete Math 2250 will be able to:
1. know the basic vocabulary of informal geometry,
2. know triangle inequalities,
3. sort, build, draw, model, trace, measure and construct one, two and three-dimensional shapes,
4. calculate angle and time measurements,
5. know the basic properties and vocabulary of polygons,
6. know the basic properties and vocabulary of parallel lines.
7. know the difference between congruence and similarity,
8. identify corresponding parts of congruent and similar figures,
9. apply the properties of similarity to a variety of indirect measurements,
10. develop methods for deriving well-known formulas, e.g. the Pythagorean Theorem, area formulas == and volume formulas,
11. understand linear measure as applied to perimeter and arc length,
12. understand surface measure involving finding areas,
13.understand and apply capacity measure involving volumes,
14. convert Celsius and Fahrenheit scales,
15. convert within English and Metric linear, area and volumetric measures,
16. use proportional reasoning such as ratios, equivalent fractions, and similar triangles, to solve 123numerical, algebraic, and geometric problems,
17. explain the concept of rational numbers, using both ratio and decimal representations; analyze the ===arithmetic algorithms for these two representations; and justify their equivalence, and
18. translate word problems into equations and solve the equations.

**Requirements**:< indicate your grading system>

**Grading System:** < attendance, assignments, homework, quizzes, tests, etc.>

**Emergency preparedness**:

The meeting point for Salazar Hall is in the parking lot at the bottom of the ramp. In an emergency, leave the building using staircases (and in an earthquake, wait to do so until the shaking has stopped). Move quickly to the meeting point and follow the instruction of the building coordinators. **Make sure to check in with me so I know that you are accounted for**. If one of your classmates needs help in evacuating, please assist. If you know that you will need assistance in an emergency and it is not obvious that this is the case, please see me so I can be aware of your need for assistance.

**ADA statement:**  Reasonable accommodation will be provided to any student who is registered with the Office of Students with Disabilities and requests needed accommodation.

**Academic honesty statement:**Students are expected to do their own work.  Copying the work of others, cheating on exams, and similar violations will be reported to the University Discipline Officer, who has the authority to take disciplinary actions against students who violate the standards of academic honesty.

**Student responsibilities:**  Students are responsible for being aware of all announcements that are made in class, such as changes in exam dates, due dates of homework and papers, and cancellation of class due to instructor’s absence.  Students are responsible for announcements made on days that they are absent.

Students must check their CSULA email account regularly for information from the instructor and the Department.  Failure to do so may result in missed deadlines or other consequences that might adversely affect students.  Note that you can forward this email account to any other account of your choosing.

**Important Dates:**