Math 136 Section 1
Mathematics for Elementary Teachers
Spring 2012; 8:10-9:00 MTWF
Office: MA 004C
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Office hours: 10-11 daily or by appt.

Billstein, Libeskind & Lott (Addison Wesley, 2010)

Required materials: graph paper notepad, calculator, ruler, protractor, compass

Overview:
This course is designed to build a foundation of mathematics content preparing the student to teach all aspects of geometry and measurement in the elementary classroom. This includes working with the concepts of geometric figures: congruence, similarity, translation, rotation, reflection symmetries, tessellation, construction, coordinates; and measurement concepts: linear measure, area, volume, mass, temperature.

Learning Goals:
1. To identify and solve elementary geometry problems.
2. To model the logic of arguments involving parallelism, congruence, and similarity.
3. To use basic measurement to approach problems involving length, area, and volume.
4. To explore, conjecture, and prove mathematical ideas and theorems.
5. To perform classical compass-straightedge constructions.
6. To develop a facility with geometric theorems and proofs, through hands-on exploration.

This course will cover the chapters listed below in the order listed.

Chapter 11/12: Geometric notions, polygons, angles, constructions
Chapter 14/12: Line concepts, isometries, size transformations, symmetries, tessellation.
Chapter 13/11: Linear measurement, Pythagorean Theorem, area, 3-D geometry, surface area, volume

Homework:
Homework will be assigned and collected regularly. Homework is due on the day indicated. Late homework is accepted ONLY if the class period during which it was due was missed and is due the day the student returns to class. You will be given credit for each “E” assignment, all other assignments will be graded on a percentage basis. I will go over homework exercises in class ONLY if at least ½ of the class requests the review.

Tests/Quizzes:
A test will follow each chapter. Tests will require logical explanations and justifications as support. You will be alerted approximately one week prior to each test as to the test date. The final exam is cumulative. A quiz will be given approximately halfway through each chapter. These are short assessments of basic concepts covered both in class and on homework assignments.
Tests and quizzes are eligible for make up ONLY if the instructor is notified of absence prior to the day it is administered. Students are responsible to schedule a makeup time with the instructor.

Final Exam: 8:00 – 10:00 Friday, December 14

Final Grade:
Final grades are determined based on the following distribution
Tests 50%
Quizzes 25%
Homework (reg) 10% (“E”) 5%
In class activities 10%
Grading Scale:
Grades are assigned according the scale:

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>95–100%</td>
<td>A</td>
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<tr>
<td>90–94%</td>
<td>A-</td>
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<tr>
<td>87–89%</td>
<td>B+</td>
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<tr>
<td>83–86%</td>
<td>B</td>
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<td>80–82%</td>
<td>B-</td>
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<td>77–79%</td>
<td>C+</td>
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<td>73–76%</td>
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<td>70–72%</td>
<td>C-</td>
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<td>67–69%</td>
<td>D+</td>
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<tr>
<td>63–66%</td>
<td>D</td>
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<tr>
<td>60–62%</td>
<td>D-</td>
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<tr>
<td>below 60%</td>
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You must earn a C- or better to pass since this is a required course for the elementary education major. The Credit/No Credit option is available to those students who are at risk of not passing the course. Please speak to the instructor should you feel you wish to exercise this option.

NOTE: Successful completion of Math 135 is a prerequisite to this course. If you have not taken, or earned a passing grade in Math 135, you will be required to drop the class. The last day to drop/add a class is Oct. 29

Expectations:

*Class attendance* is vital to the success of this course. Although attendance will not be taken daily, any in class activities done on the day of absence is NOT eligible for make-up. All in class activities are worth 10 points and are completed in cooperative groups.

*Class participation* is EXPECTED. Learning math the way children learn math empowers aspiring teachers to create an environment for their students that is conducive to learning. This may require you to leave your “comfort zone” and explore math concepts in varied ways thus building a foundation of knowledge and understanding necessary for effective teaching. This course is designed around an Inquiry based model which may be unfamiliar to you. I expect each of you to engage in the activities in the manner in which they are presented and for the sake of becoming a teacher of mathematics.

*Cell Phone Policy:* Cell phones must be turned off during class and stored in a backpack. Choosing to use a cell phone to check or text message during class may result in the student being asked to leave class. Should you have a situation in which it is vital for you to have your phone available, speak with me prior to the start of class.

* All students are expected to be familiar with the Student Conduct Code. You can find it in the “A to Z index” on the UM home page.

* All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

* Students are responsible for any information or announcements disseminated in class.

* You are expected to be responsible for your learning. Should you need assistance, please seek help from a classmate, tutor, the Math Learning Center, or myself.

* Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors and DSS. If you feel you have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommasson 154. I will make every effort to work with you in providing an appropriate accommodation.