University of Wisconsin Madison
Math 131 Mathematics for Teaching: Geometry and Measurement
Lecture 2 – Spring 2012
Tu.,Th. 1:00 pm – 2:15 pm
B329 Van Vleck

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Phone: (608) 263-3302 (Office)

Office Hours: Tu, Th 4:00 pm ~ 5:00 pm or anytime by appointment

Prerequisites: Successful completion of MTH 130 or an equivalent course, or exemption based on placement test score

Goals: Math 131 is the second of math 13x course sequence focusing on the mathematics needed for teaching in elementary school. Math 131 focuses on geometry and measurement. This is a mathematics course, not a course in methods of teaching. The main goal is to deepen your understanding of the mathematics taught in contemporary elementary schools. By “deepen your understanding” we mean that you should be able to do the following:
1. Apply geometric concepts studied in grades K–8, e. g., angle measure, congruence, similarity, transformations, in a variety of settings
2. Explain where geometric formulas “come from” and how one formula relates to another
3. Reason mathematically and do proofs in the context of geometry and measurement.

Math 131 also continues to develop some themes introduced in Math 130: (i) ideas for helping children “make sense” of mathematics, (ii) learning what pupils might find difficult and what misconceptions they might have, and (iii) how topics in the mathematics curriculum are related.

Texts
• Thomas Parker/Scott Baldridge: Elementary Geometry for Teachers (and Primary Mathematics Textbooks 3B, 5B, and 6B)
• New Elementary Math Textbook 1
• Sybilla Beckmann: Activities Manual for Mathematics for Elementary Teachers (3rd edition)

Tools
You will need a compass set for the course. This set should be include
• a reliable compass
• a setsquare
• a 6 inch ruler (with both inch and cm markings)
• a 3 inch protractor
Assessment and Grading: There will be 2 midterm exams, a cumulative final exam, HW assignments, weighted as noted below.

- 2 midterm exams @ 100 points each 200 points
- final exam 200 points
- HW assignments 200 points

In this lecture, we will have 12 graded assessments worth 20 points each. The lowest 2 will be dropped. These will take the form of collected homework and in and out class activities. Since two assessments are dropped, late work will not be accepted.

See the course web page for the specific dates on which this section will take its exams, as well as other important dates. The Final Exam for students of Math 131 will be given on Wednesday, May 16 from 10:05 a.m. – 12:05 p.m., location to be announced.

In most cases, absence from an exam will result in a grade of 0 points, and no make-up options are available. However, if a student is ill (and has a written note from the attending nurse or physician) or on official university business (e.g. participating in a sanctioned club or sport), alternate arrangements may be possible.

The grading scale is straightforward:

- 93% - 100%: A
- 89% - 92%: AB
- 82% - 88%: B
- 76% - 81%: BC
- 69% - 75%: C
- 60% - 68%: D
- 0% - 59%: F

All grades are based on how well each student learns the material, so grades are not competitive. Grades in Math 131 are based on understanding, not upon comparisons with other students.

Importance of Homework: Much of mathematics is learned through solving problems, and confidence is gained through mastery of the material. Homework will be assigned regularly. Unexcused late work will not be accepted.

You are highly encouraged to work with your instructor and other students to understand the course material. However, we expect that after conferring with others, you will write up your own responses individually and independently of others. DO NOT copy answers to homework problems from others. (See note on Academic Honesty later in this document.)

You should plan on spending about 2 hours of homework for each class meeting. Do not let yourself get behind the class! As in most mathematics courses, the material progressively builds upon itself. If you do not understand a particular topic ask questions in class, in office hours.

Other Expectations: Classes will be a mix of lecture, problem solving done individually and in small groups, and whole class discussion. You are expected to take notes, to participate in class activities, and to ask questions about what you do not understand. Attendance is important and will be taken.

Calculators will not be allowed on any exams. A successful elementary/middle school teacher should be confident and comfortable solving numerical problems mentally and on paper. One of the goals of this course is to improve your confidence and ability to do so.
Occasionally class time is wasted due to the behavior of people who are not respectful of others. Please refrain from the following disruptive actions.

• Coming late to class.
• Reading newspapers or other material not related to the course in class.
• Using objects, e.g. watches, cell phones, that beep or ring in class.
• Having private conversations or text messaging during class time.
• Leaving class early. (If for some reason you must leave class early, please inform your instructor before the start of class, and please leave class quietly.)

Policy on Academic Honesty: The principles of truth and honesty are fundamental to the educational process and the academic integrity; therefore, no student shall:

• claim or submit the academic work of another as one’s own.
• procure, provide, accept or use any materials containing questions or answers to any examination or assignment without proper authorization.
• complete or attempt to complete any assignment or examination for another individual without proper authorization.
• allow any examination or assignment to be completed for oneself, in part or in total, by another without proper authorization.
• alter, tamper with, appropriate, destroy or otherwise interfere with the research, resources, or other academic work of another person.
• fabricate or falsify data or results. ...

If any instance of academic dishonesty is discovered by an instructor, it is his or her responsibility to take appropriate action. Depending on his or her judgment of the particular case, he or she may give a failing grade to the student on the assignment or for the course."

If you are a McBurney student, please talk to me as soon as possible, even if you do not need any accommodations.

I reserve the right to modify any part of this syllabus in exceptional circumstances on an individual basis.

If you have a problem regarding Math 131 that cannot be resolved by talking with me, please contact the Associate Chair of Math Department, Prof. Steffen Lempp, lempp@math.wisc.edu. You should make sure that you consult me first. Best wishes for a successful semester!
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