



Course Syllabus: Math 250-002 LEC 13854 Winter 2011
Intuitive Geometry MTRF 12:00 PM - 12:50 PM
Black Hall 203-01 or Bouillon Hall 103

Professor: Dr. Jane Whitmire
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Office Hours: Monday and Thursday 3-5 pm
Prerequisites: Math 164
Textbook:
Problem Solving Approach to Mathematics for Elementary School Teachers
Billstein, Libeskind, and Lott

Course Description

The purpose of this course is to enable certification candidates to develop a solid knowledge of geometrical and statistical applications. Emphasis is placed on the use of physical or virtual manipulatives to link experience with mathematical understanding. While enhancing individual understanding of geometrical and statistical properties, certification candidates will learn to help students move from the concrete to abstract levels of mathematical understanding by incorporating activities using a wealth of physical, pictorial, symbolic, and verbal representations.

Supplies

Students are responsible their own writing materials such as pencil, colored pens, protractor, compass, highlighter, stapler, glue, ruler and paper (plain, grid, and lined). Maintain your supplies, notes, homework, and examinations organized in a portfolio.

Homework:

Homework exercises should be written with attention to detail, correct spelling, complete sentences, and flow. Pictorial representations for manipulatives should be neat, accurate, and typed or written in pencil. Homework is due, during or before class, the second class period after it is assigned. One homework score will be dropped. No homework assignments will be accepted after class on the day it is due.

Learning Outcomes

Each student will...

- Use a variety of tools, physical models, and appropriate technology to develop an understanding of geometric concepts and relationships and their use in describing the world in which we live.
- Derive formulas for perimeter and area of plane figures and surface area and volume of solid figures.
- Interpret measurements of many kinds of two- and three-dimensional objects.
- Identify properties, patterns, and families of geometric figures.
- Formulate and solve problems whose solutions involve spatial sense.
- Identify symmetries in the plane.
- Perform constructions with compass and straightedge and other informal techniques of paper folding.
- Perform transformations in the plane and understand their characteristics.
- Acquire appropriate vocabulary (population, sample, census, parameter, statistic) and notation.
- Learn some general guidelines for collecting data.
- Understand the difference between qualitative and quantitative data.
- Be able to correctly plot and describe statistical data.
- Be able to correctly interpret statistical plots.
- Understand the importance of measures of center and variation and when to report what type of measure.
- Understand basic probability concepts and be able to use them accordingly.
- Be able to build confidence intervals to estimate population parameters such as means and proportions from statistical data.
- Perform hypothesis tests for population parameters and appropriately interpret the results.
- Successfully use a software to describe, analyze, and perform inferential statistics.
- Gain appreciation for the importance of statistics in everyday life.

Grading

Everyone is graded the same way. Letter grades A/A-/B+/B/B-/C+/C/C-/D+/D/D-/F are based on a strict 93-100/90-92.9/87-89.9/83-86.9/80-82.9/77-79.9/73-76.9/70-72.9/67-69.9/63-66.9/60-62.9/BELOW 60 cutoff. Grades are not curved, or rounded either up or down. An estimate of the course grade is available at the class Blackboard website and can also be calculated at any time using a weighted average with the following proportions:

<i>Homework</i>	→ 30%
<i>Exams</i>	→ 30%
<i>Presentation</i>	→ 20%
<i>Final</i>	→ 20%

Exams:

Exams are comprehensive and cover all material discussed in class since the previous exam. Completing the exam in the time allotted is part of the exam. Taking an exam is an important part of the course. Nevertheless, scheduling complications sometimes occur. An alternate procedure for taking an exam due to a scheduling complication must be arranged in advance.

Presentations:

Students will select a topic to make a classroom presentation. A grading rubric will focus on mathematical content level, clarity, creativity, hands-on engagement of students, adoption of manipulative or visual stimulus, accuracy, written lesson plan, and homework assignment.

Final Exam

The final MUST be taken to pass the course. The final is comprehensive, covers all material discussed in class, and is to be taken at the time scheduled by the University. Completing the final in the time allotted is part of the final. The final exam for Winter 2011 is Thursday March 17th from 12:00 pm to 2:00 pm.

Academic Integrity

Cheating, plagiarism, and copying material that is copyrighted will not be tolerated. Disciplinary action will be taken for any of these wrong doings.

Special Needs Statement

As soon as possible, students with disabilities who wish to set up academic adjustments in this class should provide a copy of their "Confirmation of Eligibility for Academic Adjustments". Eligible students without this form should contact the Disability Support Services Office by visiting Bouillon 205, emailing dssrecept@cwu.edu, or calling the phone number 509-963-2171.