Math 251: Probability and Statistics for the Elementary School Teacher
Fall Semester, 2013
M,W, Th, F 10:00 – 10:50 in WS 3616

Course Instructor: Dr. David Buhl
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Office Hours: 11:00 Thursday; 3:00 – 4:00 Tues, Thurs, Friday

I am in my office many hours besides the ones that are listed. If you are interested in chatting, just drop me an email to set up an appointment and I will be happy to meet with you. (I also teach at 9:00 and 2:00 on M,W, Th, and Friday and tend to have meetings Monday afternoon and Tuesday morning)

Brief Description of the Course:
The course concentrates on the role of statistics and probability in society and how this impacts elementary school curriculum.

Prerequisite: An earned grade of “C” or better in MA 151

Text/Materials: The Cartoon Guide to Statistics by Larry Conick and Woollcott Smith

Course Objectives:
The course is designed to provide a background in quantitative literacy for elementary mathematics majors and minors. The relationship between probability and statistics in organizing, quantifying, analyzing, and predicting in relation to natural phenomena will be developed.

Student Learning Outcomes:
After successful completion of this course, the student will be able to:

1. Interpret frequency distributions and histograms.
2. Evaluate measures of central tendency.
3. Evaluate measures of dispersion.
4. Compute the probability of simple and compound events.
5. Compute the value of a probability using the addition and multiplication rules of probability.
6. Compute probabilities using complementary events.
7. Compute the values of permutations and combinations and interpret the meaning of each.
8. Compute probabilities for applications involving normal distributions.
9. Compute standardized scores and percentiles.
10. Estimate the value of a parameter using confidence intervals.

11. Perform tests of hypothesis involving means and proportions.
12. Interpret the meaning of a least squares.

**Assessment:**
Some form of assessment will take place most every week. Forms of assessment include: collected homework, announced/pop quizzes, a project, and tests.

It is anticipated there will be three (3) in-class tests and cumulative final. The finale is a two hour cumulative exam and will be on Wednesday, December 11 from 10:00 – 11:50 AM.

You will also be graded on classroom participation. A participant not only attends class every day (and arrives on time), but is prepared and actively contributes to learning activities. It is your responsibility to notify me in advance if you are unable to attend.

**No make-ups or late work on Homework or Quizzes will be allowed. A make-up for a missed test will be given only under exceptional circumstances and with my prior approval.**

**Evaluation:** (Tentative)
- Homework 100 pts
- 3 Tests (100 pts ea) 300 pts
- Cumulative Final 100 pts
- Participation/project 50 pts

It is anticipated will be using the familiar 60-70-80-90 percent grading scale.

**ADA Statement**
If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Dean of Students Office at 2001 C. B. Hedgcock Building (227-1700). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.