

Probability and Statistics for P-8 Teachers  
Math 4713-01  
3 Credit Hours  
Fall 2007

**Instructor:** Kevin Dyke  
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**Class Meeting:** Mondays 2:00 pm to 4:30 pm Pafford 208

**Office Hours:** **Tuesday/Thursday:**  
9:30 am to 12:15 pm 2:00 pm to 3:15 pm 4:45 pm to 5:15 pm  
**Mondays:**  
1:30 pm to 2:00 pm 4:30 pm to 5:00 pm  
AND by appointment

**Required Text:** *Probability & Statistics for Elementary/Middle School Teachers*  
by Christine A. Browning & Dwayne E. Channell, Western Michigan University (2003).

**Course Description & Learning Outcomes:** Students should be able to demonstrate:

1. An understanding of the standard vocabulary and symbols associated with probability and statistics.
2. A better understanding of the fundamental concepts in probability and statistics, including the organization of data, numerical descriptive measures, discrete random variables and their probability distributions, and continuous random variables and the normal distribution;
3. A better understanding of the appropriate strategies for teaching mathematics concepts at the P-8 level,
4. A better understanding of the uses of a variety of manipulatives, technology, and other materials for the P-8 level.

**Sections Covered:** 1.1 - 1.6, 2.1 - 2.4, 3.1 - 3.5, 5.1 - 5.3 and related topics.

**Grading:** Your grade will be calculated as follows:

|                          |          |
|--------------------------|----------|
| Test 1                   | 160 pts  |
| Test 2                   | 160 pts  |
| Test 3                   | 160 pts  |
| Class Participation      | 70 pts   |
| Lesson Plan Projects (5) | 100 pts  |
| Problem Journal (5)      | 100 pts  |
| Final                    | 250 pts  |
| <hr/>                    |          |
| Total                    | 1000 pts |

## **Grade distribution by your total points:**

|   |            |
|---|------------|
| A | 900 - 1000 |
| B | 899 – 800  |
| C | 799 – 700  |
| D | 699 – 600  |
| F | 0 - 599    |

## **Class participation, presentations, projects and homework:**

- Lesson Plan Projects:** Each student will come up with five activities / lesson plans that relate to probability or statistics. You can see related topics from the Georgia Professional Standards. ([www.georgiastandards.org](http://www.georgiastandards.org)). You will hand in a 1 – 2 page lesson plan or paper describing each activity. Each description should include; the lesson’s objective, how you will achieve the objective (or how the activity will work), and the materials used.
- Problem Journal:** Each student will select five problems from a list on twenty that involve using probability or statistics. You will write a 1 – 2 page paper on how you could teach the problem and how that will develop an understanding of the concept for the students. You can also discuss any obstacles that students might encounter and manipulatives that can be used.
- Homework:** Homework problems are at the end of each section in your workbook. The problems are not handed in for a grade, but suggested. The homework problems are a good resource for a review for the tests and final.
- Attendance Policy:** Students are expected to attend all classes. If a class is missed, the student is responsible for the material and assignments. Tests cannot be made up, if a test is missed, your final will count for that test. Attendance will be taken everyday.
- Cheating:** Cheating will not be tolerated. If a student is caught cheating on a test, they will receive a zero for the test and referred to the student judicial for academic dishonesty.
- Cell phones and other considerations:** Please refrain from any cell phone use in class. Cell phones cannot be used for calculators on tests and the final. Please refrain from any unrelated conversations during class. If you have a question about the class material, please ask. Other students can easily be distracted by even small conversations.

## Rubrics for Lesson Plan Projects and Problem Journals:

### Lesson Plan Project:

|        |   |
|--------|---|
| 20 pts | The lesson plan done completely covering all topic(s) in the section. An engaging activity done that strongly reinforces the topic(s). A typed thoroughly complete lesson plan handed in.   |
| 16 pts | The lesson plan done completely covering most of the topic(s) in the section. An activity is done that strongly relates to the topic(s), but does not necessarily reinforce the topic. A typed thoroughly complete lesson plan handed in. |
| 14 pts | The lesson plan done completely covering most of the topic(s) in the section. An activity done that relates to the topic(s), but does not necessarily reinforce the topic. A typed complete lesson plan handed in.                        |
| 10 pts | The lesson plan done only covering some of the topic(s) in the section and an unrelated activity is activity done. Lesson plan of the activity incomplete and hand written.   |
| 8 pts  | The lesson plan done but only a minimal part of topic(s) presented and no activity done. Lesson plan of the activity incomplete and hand written.   |
| 0 pts  | No lesson plan completed.   |

### Problem Journals:

|        |   |
|--------|---|
| 20 pts | Problem Journal successfully solves the problem and strong thought has been put into how this can relate to your teaching this topic. Problem Journal is typed 1 whole -2 pages.                  |
| 16 pts | Problem Journal successfully solves the problem and little or no thought has been put into how this can relate to your teaching this topic. Problem Journal is typed 1 whole -2 pages.            |
| 12 pts | Problem Journal partially solves the problem and little or no thought has been put into how this can relate to your teaching this topic. Problem Journal is less than 1 whole page typed.         |
| 8 pts  | Problem Journal does not successfully solves the problem and no thought has been put into how this can relate to your teaching this topic. Problem Journal is less than 1 whole and hand written. |
| 0 pts  | No problem journal is handed in.  |