

Math 3215

Syllabus

Basics:

Tuesday / Thursday 12:05 - 1:35

Skiles 268

Course webpage: <http://people.math.gatech.edu/~wperkins3/3215/>

Contact info:

Will Perkins

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Office Hours:

Tuesdays 3:00 pm - 4:00

Thursdays 9:00 am - 10:00

at my office, Skiles 017

Main Topics of the Course:

1. Basic Probability
2. The Statistical Method
3. Expectation and Variance
4. Law of Large Numbers and the Central Limit Theorem
5. Hypothesis Testing and Confidence Intervals

Textbook:

Hogg and Tannis, Probability and Statistical Inference, 8th edition.

We'll cover (parts of) chapters 1, 2, 3, 5, 6, 7. The textbook will be useful as a reference but will not be absolutely necessary. You will probably be just fine relying on class notes and an occasional visit to the library.

Course Requirements & Policies:

1. Homework (15%)

We will have 1 homework every 2 weeks. I'll grade it on a scale of 0-5, mainly checking that you did it and checking the correctness of one or two randomly chosen problems. I encourage you to work together on the homework, but each person must submit his/her own written work. You must also write on the first page the names of the other students you worked with.

2. Quizzes (20%)

There will be roughly 2 short (and easy) quizzes every 3 weeks. They'll have one or two questions only, mainly to make sure you are keeping up with the work and following along. These will only take 5 minutes and be graded on a scale of 0-5. I will drop your three lowest quiz grades, but there will be no makeups. This should be an easy way to improve your grade, and won't require any studying beyond having come to the previous classes (and stayed awake).

3. Midterms (30% in total)

We will have two midterms, in-class on **February 16** and **April 3**.

4. Project

The project is a chance for you to work in more depth on any topic that interests you. I'll put a list of possible projects on the class webpage, but you are encouraged to come up with one of your own. You must notify me by **March 8** if you want to do a project, and meet with me for approval on your choice of topic.

5. Final Exam (35%)

The final will take place during the scheduled time (**May 1, 11:30 am**) and cover all of the material from the class.

A link to Georgia Tech's honor code (please read it):

<http://www.honor.gatech.edu/>

Grading:

Option 1: No project, coursework (homework, quizzes, midterms, final) worth 100%

Option 2: Project worth 30% of your grade, coursework worth 70%

You must notify me by **March 8** which option you choose.

A twist on grading:

Instead of reporting your grade on a test or quiz as simply a letter or a number, I want to give you more information about how you did and what you know. I will divide your grade on an exam into the following categories:

1. knowledge of the basic terms and definitions
2. understanding of basic probability
3. understanding of the statistical method
4. creativity and ability to solve difficult problems
5. ability to apply probability and statistics to real questions and problems
6. calculations

As an example, Midterm 1 might be weighted as follows:

20% definitions

20% basic probability

15% statistical method

15% difficult problems

20% applying probability to real problems

10% calculations

And your grade would be a score of 0 - 10 in each category. Similarly, I will let you know throughout the course how you are doing in each of the five categories and how each category has been weighted in your overall grade.

The reason for this twist on reporting your grades is to give you more information on what you know and how you can improve. I would rather have you come to my office hours asking "How can I improve my understanding of the statistical method?" instead of "How can I go from a C to a B?"