MATH 511 / STAT 511 – Probability

Instructor Professor Doug Meade

Office Hours:	MW 9:00–10:00, Tu 1:00–2:00, and by *prior* appointment
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WWW Links

Homepages

- `http://www.math.sc.edu/~meade/math511-S04/`
- `http://www.math.sc.edu/~meade/stat511-S04/`

MapleTA

- `http://maplenet.math.sc.edu:8080/classes/511Spring2004/`

Meeting Times MWF 10:10AM–11:00AM, LC 113

Text Hogg and Tanis, *Probability and Statistical Inference*, Sixth Edition, Prentice–Hall, 2001.

Prerequisite Completion of Math 241 with a grade of C or better.

Course Content This is a first course in probability.

Some of the specific topics that will be covered include:

Chapter 2: Probability
- Properties of Probability and Conditional Probability
- Counting Methods
- Independent Events and Bayes' Theorem

Chapter 3: Discrete Distributions
- Discrete Random Variables
- Expectation
- Moment-Generating Functions
- Binomial and Poisson Distributions

Chapter 4: Continuous Distributions
- Continuous Random Variables
- Uniform, Exponential, Gamma, and Normal Distributions

Chapter 5: Multivariate Distributions
- Distributions of Two Random Variables
- Correlation Coefficient
- Conditional Distributions
- Bivariate Normal Distributions
- Transformations of Random Variables

Chapter 6: Sampling Distribution Theory
- Independent Random Variables
- Distributions of Sums of Independent Random Variables
- Central Limit Theorem
- Chebyshev's Inequality and Convergence in Probability

Study Hints Reading the material **in advance** of the lecture is strongly encouraged. Benefits of this preparation include obtaining a familiarity with the terminology and concepts that will be encountered (so you can distinguish major points from side issues), being able to formulate questions about the parts of the presentation that you do not understand, and having a chance to review the skills and techniques that will be needed to apply the new concepts.

Finally, as previously mentioned, you are assumed to have a mastery of the topics in Calculus — limits, derivatives, and integrals. If you are not comfortable with your basic Calculus skills, please discuss your concerns with me before they become a problem.

Grading Your grade in this course will be based on your performance on (weekly) homework, three (3) mid-term exams, and a final exam. The weights assigned to each of these components will be:

Homework	10%
Mid-term exams (3)	60%
Final exam	30%

Course grades will be determined according to the following scale:

A	90 –100
B	80 – 89
C	70 – 79
D	60 – 69
F	0 – 59

The deadline to drop this course with a grade of W is Monday, February 23, 2004.

Exams *Tentative* dates for the mid-term exams are:

Wednesday, February 11	Chapter 2 and § 3.1-3.2
Wednesday, March 24	§§ 3.3–3.5 and 4.1–4.3
Friday, April 16	§ 4.4, Chapter 5, and § 6.1

Make-up exams will be given only for documented reasons of illness, family emergency or participation in a University sponsored event. Excuses such as oversleeping, forgetting the time or location of the exam, and lack of studying are explicitly noted as unacceptable grounds for the administration of a make-up exam.

A comprehensive final will be given at 9:00A.M. on Wednesday, May 5, 2004.

Homework Problems will be assigned for each section. You are expected to work all of these problems and turn in your solutions at the beginning of class on Fridays (generally). I plan to make some of the homework submitted electronically. Details about this will be given at an appropriate time.

Graduate Credit Graduate students enrolled in this course will be expected to work additional problems assigned throughout the semester. Students taking the course for undergraduate credit can work these problems for extra credit.

Attendance Attendance at every class meeting is important – and expected. Students missing more than 10% of the class meetings (4 days) can have their grade lowered.

Academic Honesty Cheating and plagiarism will not be tolerated. You may discuss homework problems with others, but do not copy work from another student or from a book. Violations of this policy will be dealt with according to University guidelines.