

Math 362 Syllabus, Spring 2011

Mark Steinberger

Office	ES 136C
Hours	MWF 12:35–1:30 and by arrangement
Email	mark@albany.edu
	Please include Math 362 in the subject line.
Text	<i>Mathematical Statistics</i> , Wackerly, Mendenhall and Scheaffer
Final Exam	Tuesday, May 10, 10:30am–12:30pm
My home page	http://math.albany.edu/~mark
Course home page	http://math.albany.edu/~mark/classes/362/

Probability is used in a variety of contexts, from gambling to statistics. The idea is to model a repeated process and obtain estimates for the relative likelihood of different outcomes. Using statistics, you can test such a model to see if it accurately reflects the data generated by carrying out such a process. If the model is accurate, it can then be used for prediction. The interplay goes back and forth, because statistics cannot guarantee the accuracy of the model. Instead, it gives an estimate based on probability.

In this course, we study both discrete and “continuous” probability. (Continuity here is not identical to the notion of a continuous function in calculus.) Discrete probability applies to situations in which the number of possible outcomes is finite or countable (e.g., dice, cards, roulette, polling a population). Continuous probability applies to situations in which the outcome could be any real number (e.g., recording the height or weight of the individuals in a population). Continuous probability will use methods from calculus, while discrete probability uses simple arithmetical operations. Continuous models can actually be used to estimate the probabilities of discrete problems in appropriate cases, and can result in easier calculation.

We will cover Chapters 2–6 in Wackerly, Mendenhall and Scheaffer.

There will be three in-class exams and a final exam. The dates of the in-class exams will be announced in class one week prior to each exam. Exam 3 is Friday, April 15.

Each in-class exam counts for 20% of your grade. The final counts for 40%. Credit will be given for improvement on the final.

Please do ask lots of questions. Your questions are a very good indicator of what you understand. My goal here is to teach you, not to penalize you. The test for all of us is how you do on the exams, projects and quizzes. So please make use of the class and office hours to get my help. I am happy to

give it. Remember, if you have a question, there will be at least 5 others in the class with the same question. I hope one of you will ask it, because that is how we learn.

Most people learn mathematics more quickly and thoroughly if they discuss it. Verbalizing a question is often the most important step in solving it. So please make frequent use of office hours. It is also very useful to get to know your fellow students and form study groups.

The ultimate test is being able to solve problems. Keep your curiosity alive and follow it where it leads.