PROBABILITY THEORY

St. Olaf College · Math 262

Dr. Matthew Wright · Fall 2016

Text: *Probability with Applications in Engineering, Science, and Technology*, by Carlton and Devore
(note that this text is available electronically via the St. Olaf Library web site)
Meeting Times: Monday, Wednesday, and Friday, 2:00 – 2:55pm
Location: Tomson 182
Office Hours: Mon. 3–4, Wed. 9–10, Thurs. 10–11 & 1–2, Fri. 3–4, or by appointment in RMS 409
Contact info: wright5@stolaf.edu

Web Site

The course web site is:

http://math262.mlwright.org/

You will refer to this web site frequently for homework assignments and course files.

Course Objectives (courtesy of Paul Zorn)

1. To gain intuition about and understanding of the mathematical concept of probability.
2. To give numerical answers to simple and complex probabilistic questions.
3. To understand and use the fundamental concept of a random variable.
4. To learn about specific discrete and continuous probability distributions, and how to use them to model real-world phenomena.
5. To explore links among probability theory, mathematical statistics, and data analysis.
6. To use computational tools such, as the statistical computing package *R* and the computer algebra system *Mathematica*, to solve problems in probability.

Grading

Your final grade will be a weighted average of the following:

Homework:	30%	
Exams:	40%	(20% for each of two exams)
Final Exam:	30%	

Homework

Homework will be assigned and collected frequently. Assignments and due dates will be announced in class and posted in the course web site. *Keeping up with the homework is important, not only to get a good grade, but also for mastering the course material!* The proper way to work on a homework problem is as follows:

1. Read and attempt to understand the problem, looking up definitions or theorems if necessary.
2. Make a plan for solving the problem.
3. Attempt to carry out the plan. Revise the plan. Spend time thinking about the problem.
4. If you have spent significant time on the problem and still can't solve it, then talk to Prof. Wright or another student who is working on the same problem. Then go back to step 2.

5. If you think you have solved the problem, then check your answer. Ask yourself, "Is my answer reasonable? Can I verify it in some way?" See if you can improve your solution.
6. Write your solution neatly and thoroughly.

Collaboration on homework is encouraged (see #4 above), but *you must hand in your own work*. For full credit, explain your solutions clearly and *show all work*.

Homework will be due in the homework mailbox at 5pm on the due date. Late work will *not* be accepted in general. However, your lowest homework grade will be dropped.

Exams
This course will have three exams, including the final exam. Plan to be present at each exam. Make-up exams will be given only in circumstances that are truly exceptional (i.e., that occur with low probability), and must be arranged in advance. In particular, travel plans are not a valid excuse to miss an exam.

Exam 1: Friday, October 7 (in class)
Exam 2: Wednesday, November 9 (in class)
Final Exam: Thursday, December 15, 2:00 – 4:00pm; cumulative

Strategies for Success
- Attend class faithfully and take good notes.
- Read the sections in the textbook corresponding to each class.
- Keep up with the homework. Avoid doing the entire assignment the hour before it is due.
- Practice is essential for learning mathematics! Work each problem carefully and thoroughly.
- If you are having trouble, seek help! Prof. Wright is happy to talk to you.

Academic Integrity
Claiming someone else's work as your own will earn you a failing grade on the work in question. Don't do it. For more information, see the *Academic Integrity* section of *The Book* (wp.stolaf.edu/thebook/academic/integrity).

Disability and Access
Prof. Wright is committed to supporting the learning of all students. If you have already registered with Disability and Access (DAC) and have your letter of accommodations, please meet with the professor early in the course to discuss, plan, and implement your accommodations in the course. If you have or think you have a disability please contact the Disability and Access office at 507-786-3288 or wp.stolaf.edu/asc/dac.