

The first exam will be in class on Wednesday, October 7th. You will not be allowed to use any calculators, books, or notes. Answers given on the exam can be left as unsimplified formulas (ex ${}_nC_x, {}_nP_x$) when appropriate. Questions on the exam will cover material from chapters 1-5 of the book, as well as some topics in class that are not in the book. To prepare for the exam, one should be sure to make sure they know the following:

1. The difference between parameters and statistics.
2. The different types of data.
3. Sampling methods.
4. How to construct/interpret frequency distributions and other graphs.
5. What it means for data to be approximately normal or uniform.
6. The different measures of center and their properties.
7. The different measures of variation and their properties.
8. How much of the data is within 1,2, or 3 std deviations of the mean if the data is approximately normal.
9. How to estimate how much of the data is within K std. deviations of the mean.
10. How to compare variation from two different data sets.
11. How to compare relative standing for values from two different data sets
12. What is meant by a percentile and quartile.
13. How to construct/interpret box plots.
14. Methods for determining what values are outliers.
15. The rare event rule for inferential statistics.
16. What is meant by probability and what concepts go into defining it.
17. Methods for measuring and interpreting probability of an event.
18. What is meant by odds of an event and how to convert to and from probability.
19. How to deal with probabilities of unions, intersections, and conditionals.
20. The difference between an independent event and dependent event as well as when to treat something as independent.
21. How to organize statements about conditional probability into a tree diagram.
22. How to compute inverse probability via Bayes' Theorem.

23. Methods of counting with regards to replacement and order.
24. What is meant by a probability distribution, and what properties a probability distribution has.
25. How to calculate parameters and usual values of a probability distribution.
26. When a random experiment should be modeled by a binomial distribution or a Poisson distribution, as well as the associated formulas.
27. How and when to approximate a binomial distribution using a Poisson distribution.

Class the day before the exam (Tuesday, October 6th) has been set aside to be for review and questions. There is most likely not enough time to review everything listed above, so you should come to class already having looked at this list and ready to ask specifics.

Since this is a test week, there will be no homework assigned for the following Tuesday (October 13th). Homework 5 will be assigned next week that will be on material covered the Friday after the exam and the following week. It will be due the following Tuesday (October 20th).