

I posted the midterm I gave last year. The midterm will cover Chapter 2 and Chapter 3 up to the Moment generating function section. You should be able to:

- Count the number of possible arrangements with or without replacement and ordering.
- Use counting to compute probabilities.
- Determine Sample Spaces for probabilistic experiments.
- Use the axioms of probability to compute probabilities of intersections and unions of events.
- Use Conditional probabilities.
- Know and apply Bayes Rule.
- Show events are independent or not.
- Compute probabilities of events depending on independent trials.
- Derive equations relating probabilities of events by conditioning on the first outcome.
- Know what a random variable is, and the definition of its expectation, variance and distribution function.
- Given an experiment and a random variable, compute its distribution function.
- Know the distribution functions and expectations for binomial, geometric, hypergeometric, Poisson random variables, and when these distributions are used.
- Compute the MGF of a simple random variable and use the MGF to compute moments.
- Tchebysheff's inequality will not be on the exam.
- Anything else that was on the homework.