# Homework 04

Sections 3.3 - 3.4

STAT 5700 - Probability

## Instructions

- Homework problems come from the 7th edition of the text *Mathematical Statistics with Applications* by Wackerly, Mendenhall, and Scheaffer, as well as (potential) additional problems provided by the instructor.
- You are responsible for understanding the concepts covered in all problems listed in a homework assignment, but only even-numbered problems should be turned in.
- Be NEAT and show work to support your answers. Points will be deducted if your answer is not adequately supported or the work cannot be readily followed.
- You are encouraged to work together on homework assignments, but each person must write up and turn in their own work and solutions.
- You will turn in this assignment by scanning your work and uploading a single pdf to Blackboard.
- Note there is a corresponding R Lab (Lab 04) that will be due at the same time as this assignment (HW 04).

# NOTE:

*When working with the Binomial distribution, you can use the fact that if* $Y \sim binom(n, p)$ *then* $E(Y) = np$ *and* $V(Y) = np(1-p)$. *We will prove this later on.*

## Problems to do (responsible for content, but not collected/graded)

- Section 3.3: 15, 21, 31
- Section 3.4: 37, 39, 51, 55, 59

## Problems to submit

- Section 3.3: 12, 20, 22, 24, 30
- Section 3.4: 44, 58