PROB 140
Probability for Data Science

Spring 2022
WEEK 7 STUDY GUIDE

The Big Picture
After the midterm, we establish a principal concept central to variance calculations.

- *Covariance* helps calculate variances of sums and can be normalized to become *correlation*.
- General properties of variance and covariance help us calculate the variances of the main distributions.

Week At a Glance

Mon 2/28	Tue 3/1	Wed 3/2	Thu 3/3	Fri 3/4
	Midterm at lecture time	**No sections or OH**	Lecture	Sections
HW 6 Party 9AM to noon **HW 6 Due**				
Lab 3 Due			HW 7 (due 3/7)	
Prepare for midterm		Skim Chapter 13	Work through Chapter 13	Work through Chapter 13

Reading, Practice, and Live Sessions

Book	Topic	Lectures: Prof. A.	Sections: GSIs	Recommended Practice
		Tuesday 3/1 **Midterm**	Wednesday 3/2 **No section**	
Ch 13	**Covariance** - 13.1-2 define covariance and establish its main properties - 13.3 covers the important special case of sums of independent variables - 13.4 covers variances of dependent sums - 13.5 compares dependent and independent sums via a *correction factor*	Thursday 3/3 Variance of a sum: - Covariance and main properties - Sums of independent random variables - Handling dependence	Friday 3/4 - Ch 12 Ex 6 - Ch 13 Ex 1, 11, 13	Ch 12 - Ex 4, 7 Ch 13 - 2, 3, 4, 6, 15