Exam 2 Information (Spring 2020)

STAT 330 - Section 2

1. Where to go and when?

- In-class exam, Hamilton 0169
- 3:10 pm – 4:00 pm on Wednesday, March 11th

2. What to study?

- Lecture notes 5 – 9 (Discrete RV - Continuous RVs)
- Homeworks 4, 5, and 6
- Practice Exam 2 (See "Exam 2" link in Canvas)

3. What to bring?

- Closed book
- **CDF Tables (Binomial and Poisson) will be provided on the Exam.**
- You are only allowed to bring a **single** 8.5" × 11.0" formula sheet to the exam. You can write anything you want on your formula sheet (both sides!)
- You Need to Bring: Calculator (no phones, no calculators with internet access, etc!), pencils, and eraser.

Summary of Topics for Exam 2

Discrete random variable & Probability mass function (pmf)

Cumulative distribution function (cdf)

Expectation/Expected value of a (function of) random variable, (h(X) or X)

Variance and standard deviation of a discrete random variable, X

Some properties of E(X) and Var(X) for linear combinations of X

- E(3 – 2X) etc.

Named Distributions

Know the scenarios for when they arise

Bernoulli distribution

Binomial distribution

Geometric distribution

Poisson distribution

You should write down pmfs, expected value and variance formulas for each; use them to answer questions about X

Joint and Marginal pmfs for discrete random variables--finding probabilities

Expectation/Expected value for a function of X and Y, E[*h(X,Y)*]

- Namely h(X,Y) = XY → E(XY) goes into covariance formula

Covariance and correlation between *X* and *Y*

Independence of random variables

- How to check for independence

More theorems on expectation and variance of linear combinations

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General Continuous Random Variables

- Find the cdf (remember to cover all cases for x)
- Find probabilities
- Find E(X) and Var(X)