

## SYLLABUS

**STA 4322 Introduction to Statistics Theory**  
**STA 5328 Introduction to Statistics Theory**

Spring, 2022

**Instructor:** Malay Ghosh

**Office:** 223 Griffin-Floyd Hall

**Phone:** 352-273-2992

**Office Hours:** 3:00 p.m-4:00 p.m. Mon and Wed via ZOOM and 8:30-9:30 a.m. Fri (in person)

**ZOOM ID:** 92820357786; **Passcode:** 627460

**Teaching Assistant:** Yanxi Liu

### **Objective:**

The objective of the sequence STA 4321-4322 (rep. 5325-5328) is to provide students a solid foundation in mathematical statistics. STA 4321/5325 deals with the basic probabilistic and distributional tools that are needed for STA 4322/5328 which covers statistical inference. STA 4322/5328 covers the core of statistics theory useful for everyone engaged in statistical applications. We will cover methods of finding distributions of functions of random variables, sampling distributions, central limit theorem, point estimation, confidence intervals and hypothesis testing.

**Text: Mathematical Statistics with Applications (7th Edition):**

**Authors: Wackerly, Mendenhall and Scheaffer**

**Course Website:** Canvas

Please check this site regularly. Most course documents and important information including homework assignment and solutions, and other announcements will be posted there.

### **Grades:**

I am planning to give 10 homeworks, and 10 quizzes based on these homeworks every Friday, unless an exam is scheduled on that day. They will count for a total of 20%. 5% is assigned to regular class attendance. There will be three exams during regular class hours on **February 11**, **March 25** and **April 20**, each counting 25% of the total. You will be permitted to bring one 8.5 by 11 inch sheet of paper with formulas and notes on both sides for each exam. **No make up exams will be offered except under unusual circumstances, for example illness, and that too with prior permission from the instructor.**

The grading policy is 90%+ for A; 85-89% for A-; 80-84% for B+; 75-79% for B; 70-74% for B- and so on. **All grades are final and non-negotiable.**

**Homework Policy:** We will provide solutions for each homework once the quizzes are over. I will also be in constant touch with the Teaching Assistant to make sure that the scores are fair. Once we have decided about the scores, it is very unlikely that there will any change unless we both have missed any valid point.

**Homework List:**

Chapter 6: 6.2, 6.3, 6.5, 6.9, 6.11, 6.15, 6.18, 6.20, 6.26, 6.28, 6.32, 6.34, 6.38, 6.40, 6.45, 6.48, 6.52, 6.54, 6.59, 6.60, 6.74, 6.76, 6.78, 6.80, 6.81, 6.88.

Chapter 7: 7.11, 7.15, 7.20, 7.29, 7.33, 7.37, 7.46, 7.47, 7.52, 7.58.

Chapter 8: 8.1, 8.3, 8.8, 8.10, 8.17, 8.19, 8.21, 8.24, 8.28, 8.39, 8.43, 8.46, 8.47, 8.50, 8.56, 8.63, 8.65, 8.67, 8.71, 8.74, 8.75, 8.80, 8.82, 8.85, 8.90, 8.91, 8.97, 8.100, 8.102.

Chapter 9: 9.2, 9.3, 9.5, 9.6, 9.15, 9.17, 9.19, 9.22, 9.24, 9.31, 9.35, 9.38, 9.39, 9.40, 9.42, 9.44, 9.51, 9.54, 9.58, 9.60, 9.61, 9.63, 9.64, 9.70, 9.73, 9.75, 9.77, 9.80, 9.82, 9.83, 9.85, 9.87, 9.89.

Chapter 10: 10.2, 10.3, 10.7, 10.18, 10.20, 10.23, 10.24, 10.26, 10.28, 10.30, 10.33, 10.39, 10.40, 10.43, 10.44, 10.45, 10.48, 10.50, 10.52, 10.54, 10.57, 10.66, 10.69, 10.70, 10.79, 10.81, 10.83, 10.91, 10.94, 10.95, 10.99, 10.102, 10.105, 10.107, 10.109.

**Important Information:**

**This will strictly be a F2F class with no Hyflex or Online option. I strongly encourage everyone in this class to wear a mask. During in person office hours, I require everyone to wear a mask. If you do not want to wear a mask, or have forgotten to bring your mask, you always have the option of setting up a ZOOM meeting.**