

## SYLLABUS

**STA 4321 Introduction to Probability**  
**STA 5325 Fundamentals of Probability**

Fall 2021

**Instructor: Malay Ghosh**

**Office: 223 Griffin-Floyd Hall**

**Phone: 352-273-2992**

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

**ZOOM ID: 97388046123; Passcode: 236113**

**Teaching Assistant: Dipshi Roychowdhury**

**Office: 234 Griffin-Floyd Hall**

### **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. Besides, these tools are also useful for topics such as stochastic processes, time series analysis and others. We will cover the basic probability results, discrete and continuous distributions, multivariate distributions and functions of random variables.

**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 11 homeworks (unless not possible due to extraneous circumstances), typically due on Thursdays, and pick the best 10 out of these. They will count for a total of 25%. There will be three exams during regular class hours on **October 7, November 9** and **December 7**, 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:** I will be in constant co-ordination 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 2: 2.1, 2.7, 2.8, 2.11, 2.13, 2.15, 2.17, 2.19, 2.28, 2.31, 2.33, 2.38, 2.40, 2.43, 2.49, 2.51, 2.53, 2.63, 2.72, 2.73, 2.76, 2.79, 2.80, 2.88, 2.94, 2.95, 2.97, 2.98, 2.101, 2.110, 2.112, 2.114, 2.116, 2.120, 2.124, 2.125, 2.130, 2.133, 2.135.

Chapter 3: 3.1, 3.3, 3.4, 3.8, 3.11, 3.12, 3.14, 3.20, 3.25, 3.27, 3.31, 3.34, 3.37, 3.39, 3.41, 3.45, 3.48, 3.53, 3.61, 3.69, 3.70, 3.71, 3.79, 3.90, 3.92, 3.103, 3.107, 3.113, 3.117, 3.122, 3.127, 3.130, 3.132, 3.139, 3.153, 3.155, 3.158, 3.167, 3.169.

Chapter 4: 4.8, 4.11, 4.13, 4.15, 4.18, 4.19, 4.22, 4.27, 4.30, 4.31, 4.33, 4.38, 4.39, 4.40, 4.47, 4.51, 4.64, 4.66, 4.74, 4.80, 4.91, 4.95, 4.104, 4.109, 4.124, 4.126, 4.129, 4.131, 4.136, 4.137, 4.139, 4.145, 4.146, 4.149, 4.153.

Chapter 5: 5.1, 5.3, 5.5, 5.8, 5.10, 5.15, 5.17, 5.18, 5.19, 5.21, 5.23, 5.26, 5.33, 5.37, 5.38, 5.45, 5.47, 5.50, 5.52, 5.59, 5.61, 5.69, 5.72, 5.73, 5.76, 5.81, 5.89, 5.90, 5.94, 5.100, 5.102, 5.104, 5.105, 5.108, 5.113, 5.120, 5.123, 5.125, 5.137, 5.139, 5.141.

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.

### **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. Please visit also the uploaded file where some University Policies are documented.**