DISCRETE PROBABILITY

STAT 21200

Professor Sandra Clarkson email: sclarkso@hunter.cuny.edu Email with STAT 212 in the subject line

OFFICE HOURS: Monday 2:15-3:15 ZoomLink if needed: Meeting ID: 895 0544 9758 Join Zoom Meeting https://us02web.zoom.us/j/89505449758

TEXT: A PRIMER IN PROBABILITY, Second Edition. Kathleen Subrahmaniam, author. Published by Marcel Dekker, 1990. You need the book for the homework problems and details not included on the Powerpoint slides. You may share the text with another student if you wish.

EXPECTED LEARNING OUTCOMES

At the end of the course you are expected to:

- know the basic rules of probability and apply them to verbal problem situations
- o distinguish between permutation and combinatorial problems and solve them
- $\circ~$ identify the properties of random variables and solve problems involving such variables
- identify the probability distribution(s) indicated by particular problems and use appropriate procedures to solve the problems
- Interpret and draw appropriate inferences from quantitative
- representations, such as formulas, graphs, or tables.
- Use algebraic, numerical, graphical, or statistical methods to draw accurate conclusions and solve mathematical problems.
- Represent quantitative problems expressed in natural language in a suitable mathematical format.
- Effectively communicate quantitative analysis or solutions to mathematical problems in written or oral form.
- Evaluate solutions to problems for reasonableness using a variety of means, including informed estimation.

BLACKBOARD

You are expected to use Blackboard during the semester to access class notes and powerpoint slides and receive relevant course emails and materials. It is your responsibility to have a working Hunter email. I will send you an email from Blackboard prior to your first class. If you do not receive that email, you must contact the Student Help Desk for help.

Classes will be held in person, Room 921 HE. If we ever have to meet online, the link is above. For meeting online, please read the following: **Technical Requirements:** Students must have a computer with a camera and a stable internet connection. If you do not have this, spaces are available in the Hunter College Library where you can do your work and take your exams. See https://hunter.cuny.edu/focus/information-for-students/ and scroll down for both Study Spaces and Computer Labs and Student Technology Resources.

HOMEWORK: Homework counts 5 points toward your final grade. You will be assigned <u>homework problems</u> during the semester--they can be found on the PowerPoint slides assigned for the course. You should submit your assigned homework online by 11:59 pm the night of each exam.

CLASS PARTICIPATION: Prior to the class where we start a new Chapter, you should look at the power point slides for that Chapter. If you have questions, those will be answered in class but we will not go through the slides. Class time will be spent solving problems and talking about the solutions. You will work in small groups with many different students. Sometimes the problems we work will be from your homework; sometimes the problems will be problems that are not in your textbook. You will sometimes have to put problems on the board, or help someone else do that, and explain your solution. 30% of your grade is your in-class participation. This is a working class. There are no lectures.

GROUP PROBLEM SESSIONS (GPS)

Prior to each exam, there will be one or two problem work sessions in class. During that time, you will be given some sample problems. The problems on the exam will be similar to, but not identical to, those problems and/or the homework problems. The GPS sessions will be 10/5, 10/10, 11/6 and 12/4.

EXAMS

There will be three tests and a final exam. The exams are on 10/12, 11/9 and 12/7. There will be materials to help you prepare for the Final. Those materials will be available on 12/11. The Final Exam is cumulative and will be given 5/18 1:45-3:45. There are no make-up exams without a good excuse and my permission. If you are taking a make-up exam, you must take it within a week of the original exam and there will be a 10 point late penalty.

PROBABILITY PROJECT. Details to be given later.

GRADING

Final exam (20%); Three exams 10% each. Attendance/class participation (30%); homework (5%) Probability Project (15%). I will not give an INC grade in this course. There are no P/NC grades allowed in this course. A grade of WU will be assigned to any student who stops attending, misses one or more exams and does not take the final. The last day to drop with a grade of W is 12/11. You must drop through CUNY First.

DAY	DATE	CLASS #	СН	ТОРІС
Monday	28-Aug	1		INTRODUCTION
Thursday	31-Aug	2	CH2	Basic Concepts of Probability
Monday	4-Sep	NO CLASS		NO CLASS
Thursday	7-Sep	3	CH2	Basic Concepts of Probability
Monday	11-Sep	4	CH3	Counting Procedures
Thursday	14-Sep	5	CH3	Counting Procedures
Monday	18-Sep	6	CH4	Conditional Probability

DAY-TO-DAY SCHEDULE

Thursday	21-Sep	7	CH4	Conditional Probability
Monday	25-Sep	NO CLASS		NO CLASS
Thursday	28-Sep	8	CH5	Independence
Monday	2-Oct	9	CH5	Independence
Thursday	5-Oct	10		GPS 1 Part 1
Monday	9-Oct	NO CLASS		NO CLASS
Tuesday (Monday class)	10-Oct	11		GPS 1 Part 2
Thursday	12-Oct	12		EXAM 1
Monday	16-Oct	13	CH6	Random Variables
Thursday	19-Oct	14	CH6	Random Variables
Monday	23-Oct	15	CH7	Describing Random Variables(RV)
Thursday	26-Oct	16	CH7	Describing Random Variables(RV)
Monday	30-Oct	17	CH8	Joint Behavior of Several RV
Thursday	2-Nov	18	CH8	Joint Behavior of Several RV
Monday	6-Nov	19		GPS 2/Intro to Project
Thursday	9-Nov	20		EXAM 2
Monday	13-Nov	21		Work on PROJECT
Thursday	16-Nov	22		Work on PROJECT
Monday	20-Nov	23	CH9	Special Discrete Probability Models
Thursday	23-Nov	NO CLASS		NO CLASS
Monday	27-Nov	24	CH9	Special Discrete Probability Models
Thursday	30-Nov	25	CH9	Special Discrete Probability Models
Monday	4-Dec	26		GPS 3
Thursday	7-Dec	27		EXAM 3
Monday	11-Dec	28		PROJECT PRESENTATIONS

Hunter College Policy on Academic Integrity

"Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures."

ADA Policy (Suggested language from the Office of AccessABILITY)

"In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of AccessABILITY, located in Room E1214B, to secure necessary

academic accommodations. For further information and assistance, please call: (212) 772-4857 or (212) 650-3230."

Hunter College Policy on Sexual Misconduct

"In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

- a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).
- b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link: <u>http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf</u>