MATH/STAT 395A: Probability II

COURSE INFORMATION (WINTER 2020)

Instructor: Zhen-Qing Chen, Padelford C-341, Telephone: 543-1907.

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Web Page: http://www.math.washington.edu/~zchen/M395.html

Lecture: MWF 10:30-11:20 a.m. at **HCK 132**.

Office hours: Office hours: Wednesday 2:30 pm.-3:20 pm. and Fridays 1:30-2:20 pm. at Padelford C-341.

Teaching Assistant: Tim Mesikepp, PDL C-34. Email: mesiket@uw.edu
Office hours: Thursdays 1:30-3:30 pm. at PDL C-38.

Textbook: D. F. Anderson, T. Seppäläinen and B. Valkó: *Introduction to Probability*. Cambridge Mathematical Textbooks, 2018.

Prerequiste: Math/Stat 394.

Description: This is the second quarter of a three-quarter sequence course in probability theory. In this quarter we plan to cover topics on expectations and variance, Covariance, correlation, and Cauchy-Schwarz inequality, Bivariate normal distribution, Multivariate transformations, Moment generating functions, Sums of independent random variables, Central limit theorem. We will also discuss Chernoff's inequality, Jensen's inequality, Entropy and Kullback-Leibler divergence. Except that last part, they correspond to Sections 6.1, 6.1-6.4, 7.1, 8.1-8.5, 9.3, and 10.1-10.4 of the textbook.

Homework: There will be 8 weekly homework assignments throughout the quarter. They are due on every Friday except the week of the midterms. They must be submitted either during class or by e-mail to the TA before the end of the class. No late homework will be accepted at all. The most important function of the homework is to help you to internalize concepts and develop problem solving skills.

Examinations: During the quarter, there will be two midterm exams and one final exam. *No makeup exams will be given.* For documented illness or real emergency, it will be treated on a case by case basis. Malfunctioning alarm clocks and missed buses are not such emergencies. So please plan ahead.

Petitions for alternatives to the final are usually granted only for religious reasons, reasons of health, or extraordinary circumstances. Petitions are available in the Student Services Office, C-36 Padelford and should be filed by the end of the sixth week of the quarter. Please provide appropriate written documentation to support your petition. Approval of petitions is not automatic. Plans for sporting events, travel or work on exam day, etc. do not constitute extraordinary circumstances. If you are petitioning, you should also notify Professor Chen at the same time.

Examination Dates:

Exam I: Friday, January 31, 2020 in class (10:30-11:20 pm.).
Exam II: Friday, February 28, 2020 in class (10:30-11:20 pm.).
Final Exam: Monday, March 16, 2020, 8:30–10:20 am at **HCK 132**.

Grading Policy: Homework (10%) Exam I (25%), Exam II (25%) and Final exam (40%). Your grade for this course will be based on the sum of these scores on curve. It is impossible to pass this course without taking the final exam.

The exams and final are closed book exams. However you may bring to the exams one 8" ×11" sheet of handwritten notes (written on both sides, if you wish). Only non-graphing calculators with one-line displays are allowed during the exams.