

MATHEMATICS 546 SYLLABUS - FALL 2021

TH 11:45 am - 1:00 pm, Williams 2104

INSTRUCTOR

Min Kang, (office: SAS 4114, Ph #: 919-515-7891, email: mkang2@ncsu.edu)

TEXTBOOK

‘Probability Essentials’ written by J. Jacod and P. Protter.

PREREQUISITES

Basic Real Analysis Background (MA 425 - 426). For mathematics graduate students and mathematics majors intending to continue to MA 747, it is better to have the graduate analysis sequence (MA 515-715) or solid measure theory background.

CONTENT

This course covers the following topics: foundation in probability theory including random variables, conditioning, independence, mode of convergence, random vectors, essential inequalities, probability distributions, conditional expectations, characteristic functions, Gaussian processes, sums of independent random variables and related limit theorems, laws of large numbers and central limit theorems. If time permits, we may include discussions on ergodic theory and large deviations.

HOMEWORK

Homework will be assigned and possibly collected once every three or four weeks, usually on Thursdays. It is the students’ responsibility to do the homework. For the homework problems, check the corresponding homework posted in the course Moodle site. Late homework will NOT be accepted.

MIDTERMS

There will be two 75-minute midterm tests: the first test on Thursday, 09/23/2021 and the second on Thursday, 11/04/2021. All midterm tests will be at Williams Hall 2104, 11:45 am - 1:00 pm. There will NOT be any make-up midterm. These are closed-book exams without any form of aid allowed.

FINAL EXAM

The final is given on December 2, 2021 (Thursday), 12:00 pm - 2:30 pm in Williams 2104. The instructor is not allowed to schedule a make-up final exam. Students must arrange their schedule to avoid any conflict with other finals. The final exam is cumulative, including the whole material covered throughout the semester. The final is a closed-book exam without any form of aid allowed.

GRADE

Homework Assignments 20 %, Two Midterms 46 % together, Final 34 %. All the exams are curved including the final and the letter grades.

OFFICE HOURS

Wednesdays 4:00 pm - 6:00 pm or by appointments or zoom.

ACCOMMODATION OF DISABILITY

Reasonable accommodation will be given to the students with verified learning disabilities. The students with the learning disability must register with Disability Services at Student Health Center Suite 1900, Campus Box 7509, 515-7653.