

Syllabus

Math 447 Introduction to Probability Theory. Spring 2022.

Binghamton University

- Instructor: Vladislav Kargin
- Office: WH-136
- Meeting time and location: MWF 8:00 - 9:30 am at CW 212.
- Office hours: MWF 10:00 - 11:00 (in person, office WH136) or Zoom by appointment.

This course is a 4-credit course, which means that in addition to the scheduled lectures/discussions, students are expected to do at least 9.5 hours of course-related work each week during the semester. This includes things like: completing assigned readings, participating in lab sessions, studying for tests and examinations, preparing written assignments, completing internship or clinical placement requirements, and other tasks that must be completed to earn credit in the course.

Prerequisite

- A grade of C or better in Math 323

Description

This is an introductory course that will cover basic combinatorial probability and essential tools of modern probability, including mathematical expectation, probability conditioning, moments and moment generating function. It will discuss common discrete and continuous distributions, multivariate distributions and some limit theorems. It is prerequisite course for Math 448 (the statistics half of the sequence) and several other actuarial/statistics courses. The learning outcome is the ability to work with probability tools necessary for these courses.

Recommended Texts

- “Mathematical Statistics with Applications” by Wackerly, Mendenhall, and Scheaffer

We will cover Chapters 2-7. Electronic copy will be made available. I will also provide a set of lecture notes mostly based on this book.

Online resources

Two previous versions of this course were recorded for online semesters and available on YouTube.

Piazza

We will use Piazza (“<http://piazza.com/>”) for communication. All announcements will be sent to the class using Piazza.

Homework

Majority of homework will be assigned through WebAssign (<https://www.webassign.net>). The key for enrolling will be provided. You will need to pay for your WebAssign account (around \$120 per term).

Some of homework will be assigned through Gradescope ("<https://www.gradescope.com/>").

Brightspace will only be used minimally.

Attendance, Polls and Quizzes

We will use iClicker Cloud. Download application at (<https://www.iclicker.com/students>). The subscription is around \$16 for 6 months.

Exams

There will be two midterms and a final exam. Approximate schedule:

Midterm 1 - March 7

Midterm 2 - April 11

Final - as determined by the university

Grading

- Homework 15%
- Midterms 50% (25 each)
- Final Exam 35%
- Lecture attendance and participation – possible bonus of up to 5% according to the instructor judgement.

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