The Department of Mathematics

2023–24–B term

Course Name Probability 1 for statisticians

Course Number 201.1.9921

Course web page
> `https://www.math.bgu.ac.il//en/teaching/spring2024/courses/`
> `prob1-statistics`

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Office Hours `https://www.math.bgu.ac.il/en/teaching/hours`

Abstract

Requirements and grading[1]

Course topics

Basic combinatorics

- Sample space and events. Probability mass function

- Conditional probability. Law of total probability. Bayes? formula

- Independence

- Useful discrete distributions: unfiorm, binomial, geometric, Poisson, hyper-geometric, negative binomial.

- Expectation, variance, median, percentile

- Functions of a random variable

- Two dimensional distributions: joint distribution, marginal distribution, covariance, conditioning on marginals

- Markov, Chebychev and Jensen inequalities

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[1]Information may change during the first two weeks of the term. Please consult the webpage for updates

- Normal distribution

- Sequences of random variables: law of large numbers and central limit theorem