The Department of Mathematics
2021–22–B term

Course Name  Probability For Computer Science
Course Number  201.1.2391

Course web page  
https://www.math.bgu.ac.il//en/teaching/spring2022/courses/probability-for-computer-science

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

Abstract

Requirements and grading

Course topics

Sample spaces and finite probability spaces with symmetric simple events, general probability spaces and the fields of events, the Borel field and probabilities on it defined by densities, conditional probabilities and independent events, random variables and their distribution functions (discrete, absolutely continuous, mixed), the expectation of a random variable (for discrete, absolutely continuous and general distribution), the variance of a random variable, random vectors and the covariance, independent random variables, the central limit theorem for i.i.d. random variables, examples related to analysis of simple algorithms, joint densities (discrete or continuous) with computation of the covariance and the marginal distributions, the weak law of large numbers.1. A.M. Mood, F.A. Graybill And D.C.Boes. Introduction To The Theory Of Statistics 3rd Edition, Mcgraw-Hill, 1974. 2. A. Dvoretzky, Probability theory (in Hebrew), Academon, Jerusalem, 1968.3. B. Gnedenko, The theory of Probability, Chelsea 1967 (or Moscow 1982) in English; Russian origina titled ‘A course in probability theory’.

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