אוניברסיטת
בן-גוריון בנגב

The Department of Mathematics
2018–19–B term

Course Name Discrete Mathematics for Communication Engineering

Course Number 201.1.6201

Course web page
https://www.math.bgu.ac.il//en/teaching/spring2019/courses/
discrete-mathematics-for-communication-engineering

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

Abstract

Requirements and grading[1]

Course topics

Prerequisites: 20119531 Linear Algebra

Brief syllabus

1. Operations over sets, logical notation, relations.

2. Enumeration of combinatorial objects: integer numbers, functions, main principles of combinatorics.

3. Elementary combinatorics: ordered and unordered sets and multisets, binomial and multinomial coefficients.

4. Principle of inclusion and exclusion, Euler function.

5. Graphs: representation and isomorphism of graphs, valency, paths and cycles.

6. Recursion and generating functions: recursive definitions, usual and exponential generating functions, linear recurrent relations with constant coefficients.

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

7. (Optional) Modular arithmetics: congruences of integer numbers, $\mathbb{Z}_m$, invertible elements in $\mathbb{Z}_m$.