

The Department of Mathematics

2018–19–B term

Course Name Expander graphs and group theory

Course Number 201.2.4241

Course web page

<https://www.math.bgu.ac.il/en/teaching/spring2019/courses/expander-graphs-and-group-theory>

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

Abstract

Requirements and grading¹

Course topics

Definitions of expander graphs, Cheeger-Buser inequality, Expander mixing lemma, Alon-Boppana Theorem, Existence of expander graphs (non constructive proof), Application of expander graphs to error-correcting codes, Groups – basic concepts (actions, Cayley graphs, normal subgroups, unitary representations), Margulis expanders, Kazhdan property (T) – definition, hereditary properties, relation to expander graphs, other constructions of expander graphs.

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