

## The Department of Mathematics

2018–19–B term

**Course Name** Expander graphs and group theory

**Course Number** 201.2.4241

**Course web page**

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

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

### Abstract

### Requirements and grading<sup>1</sup>

### 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.

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