

The Department of Mathematics

2021–22–B term

Course Name Introduction to Ergodic Theory

Course Number 201.2.0141

Course web page

<https://www.math.bgu.ac.il/en/teaching/spring2022/courses/ergodic-theory>

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

Abstract

Requirements and grading¹

Course topics

1. Measure preserving systems for Borel group actions
2. Ergodicity, ergodic decomposition, mixing and weak mixing
3. Minimality and unique ergodicity
4. Mean and pointwise ergodic theorems for a single transformation
5. (*) Joinings
6. (*) Decomposition of a measure relative to a partition and conditional measures
7. (*) Entropy
8. (*) Ergodic theorems for general groups and amenability.

(*) denotes optional topics to be covered according to class level and teacher discretion.

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