

# 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 grading<sup>1</sup>

## 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.

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