

# The Department of Mathematics

2022–23–A term

**Course Name** Introduction to Topological Dynamics

**Course Number** 201.1.0611

**Course web page**

<https://www.math.bgu.ac.il/en/teaching/fall2023/courses/introduction-to-topolog>

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

## Abstract

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

## Course topics

- The notion of a Dynamical system, background, motivating examples.
- Limit Sets and Recurrence, Van der Varden's theorem as an application.
- Basic notions in topological dynamics: Topological transitivity, minimality, topological Mixing, Expansiveness, Equicontinuity.
- Circle rotations, homeomorphisms of the circle, rotation numbers and Denjoy's theorem.
- Topological entropy.
- Automorphisms of the torus, automorphisms of compact groups.
- Shift spaces and shifts of finite type
- Brief introduction to ergodic theory: Equidistribution, unique ergodicity.

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