

## The Department of Mathematics

2020–21–A term

**Course Name** Introduction to  $C^*$ -algebras

**Course Number** 201.2.5361

**Course web page**

<https://www.math.bgu.ac.il/en/teaching/fall2021/courses/introduction-to-c-algebras>

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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 Background material in functional analysis and Hilbert space theory; basics of Banach algebras, and Gelfand theory.
- .2 Basic results: commutative  $C^*$ -algebras, positivity, ideals and quotients, states and representations, the GNS construction, the algebra of compact operators.
- .3 A discussion of some basic examples in the theory (e.g. AF algebras, Toeplitz and Cuntz algebras, irrational rotation algebras, as time permits). Introduction to K-theory.

Further topics as time permits.

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