

# The Department of Mathematics

2022–23–A term

**Course Name** Linear algebra 1

**Course Number** 201.1.1211

**Course web page**

<https://math.bgu.ac.il/en/teaching/fall2023/courses/linear-algebra-1>

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

## Abstract

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

## Course topics

- Complex numbers. Fields: definition and properties. Examples.
- Systems of Linear equations. Gauss elimination process.
- Matrices and operations on them. Invertible matrices.
- Determinant: definition and properties. Adjoint matrix. Cramer rule.
- Vector spaces and subspaces. Linear spanning and linear dependence. Basis and dimension. Coordinates with respect to a given basis.
- Linear transformations. Kernel and Image. Isomorphism of vector spaces. Matrix of a linear transformation with respect to given bases.
- The space of linear transformations between two vector spaces. Dual space

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