

The Department of Mathematics

2021–22–A term

Course Name Linear algebra 1

Course Number 201.1.1211

Course web page

<https://math.bgu.ac.il/en/teaching/fall2022/courses/linear-algebra-1>

Lecturer Prof. Ilya Tyomkin, <tyomkin@bgu.ac.il>, Office 213

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

Abstract

Requirements and grading¹

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

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