

# The Department of Mathematics

2023–24–A term

**Course Name** Introduction to Linear Algebra C

**Course Number** 201.1.9281

**Course web page**

<https://www.math.bgu.ac.il/en/teaching/fall2024/courses/introduction-to-linear->

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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 Introduction: the real and complex numbers, polynomials.
- .2 Systems of linear equations and Gauss elimination.
- .3 Vector spaces: examples (Euclidean 2-space and 3-space, function spaces, matrix spaces), basic concepts, basis and dimension of a vector space. Application to systems of linear equations.
- .4 Inverse matrices, the determinant, scalar products.
- .5 Linear transformations: kernel and image, the matrix representation of a transformation, change of basis.
- .6 Eigenvalues, eigenvectors and diagonalization.

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