

The Department of Mathematics

2022–23–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/fall2023/courses/introduction-to-linear->

Lecturer Dr. Motke Porat, <motkep@bgu.ac.il>, Office 318

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

Abstract

Requirements and grading¹

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.

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