

CHAPTER OVERVIEW

15: Matrices

Chapter Objectives

- Learn the nomenclature used in linear algebra to describe matrices (rows, columns, triangular matrices, diagonal matrices, trace, transpose, singularity, etc).
- Learn how to add, subtract and multiply matrices.
- Learn the concept of inverse.
- Understand the use of matrices as symmetry operators.
- Understand the concept of orthogonality.
- Understand how to calculate the eigenvalues and normalized eigenvectors of a 2×2 matrix.
- Understand the concept of Hermitian matrix

[15.1: Definitions](#)

[15.2: Matrix Addition](#)

[15.3: Matrix Multiplication](#)

[15.4: Symmetry Operators](#)

[15.5: Matrix Inversion](#)

[15.6: Orthogonal Matrices](#)

[15.7: Eigenvalues and Eigenvectors](#)

[15.8: Hermitian Matrices](#)

[15.9: Problems](#)

This page titled [15: Matrices](#) is shared under a [CC BY-NC-SA 4.0](#) license and was authored, remixed, and/or curated by [Marcia Levitus](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform.