
Geometry A

Finalità

This course is aimed at providing students with the basic concepts of linear algebra. On completion of this module, students should be able to

- a) tackle and solve elementary problems of linear analytic geometry,
- b) operate with matrices and solve systems of linear equations,
- c) solve simple eigenvalue problems..

Programma

1. Linear analytic geometry in Euclidean space: space vectors, scalar product, vector cross product, lines, planes, and their reciprocal position.
2. Vectors, matrices, linear systems: \mathbb{R}^n as a vector space, operations on matrices, determinants, rank, linear systems, linear dependence and independence, bases, dimension.
3. Linear transformations and diagonalization: matrices and linear transformations, eigenvalues, eigenvectors, diagonalization.

Attività d'esercitazione

Discussion and solution of exercises and assignments

Modalità d'esame

Written and oral exam

Propedeuticità

secondary school mathematics

Testi consigliati

L. Alessandrini, L. Nicolodi, Geometria A, UNI.NOVA, Parma, 2002.