

MATH 220C : Elementary Linear Algebra

Emphasizes techniques of linear algebra with applications. Topics include matrix operations, determinants, solutions of systems of linear equations, linear independence, matrix factorization, linear transformations, vector spaces, orthogonality, inner products and norms, and eigenvalues and eigenvectors. A graphing calculator is required.

Credits 4

Lab/Practicum/Clinical Hours 0

Lecture Hours 4

Prerequisite Courses

MATH 205C

Learning Outcomes

- State, interpret, and apply the definitions, theorems, and properties involving matrices, vector spaces and subspace, eigenvalues and eigenvectors, and linear transformations.
- Use matrices to determine solutions to systems of linear equations.
- Determine different matrix factorizations.
- Determine orthogonality.
- Determine the Least-Squares solution to a nonhomogeneous system of linear equation
- Construct an orthogonal/orthonormal basis to a vector space using the Gram-Schmidt Orthonormal Process.