



MATHEMATICS 211 "LINEAR METHODS I"

Calendar Description: H(3-1T-1)

Linear equations. Matrices. Vectors. Elements of coordinate geometry. Complex numbers. Determinants. Applications.

Prerequisite: A grade of 70% or higher in Mathematics 30 or Pure Mathematics 30; or B- or better in Math II (Continuing. Ed.).

Note: Credit for both Mathematics 211 and 221 will not be allowed.

Syllabus

<u>Topics</u>	<u>Number of hours</u>
Systems of linear equations, Gauss-Jordan elimination, homogeneous systems	5
Matrix arithmetic, inverses, applications to systems of equations	7
Determinants and their properties, cofactor expansions, the adjoint, (Cramer's rule)	5
Geometric vectors and their arithmetic, scalar products and projections, vector products in 3-dimensions, lines and planes in 3-dimensions	9
Complex numbers	4
Selected applications (Markov Chains, economic models, least squares approximation, linear programming)	5
Review	1
TOTAL HOURS	36
