



Mathematics 211

Linear Methods I

(see Course Descriptions for the applicable academic year: <http://www.ucalgary.ca/pubs/calendar/>)

Syllabus

<u>Topics</u>	<u>Number of hours</u>
Systems of linear equations, Gauss-Jordan elimination, homogeneous systems, rank	3
Vectors in \mathbb{R}^2 and \mathbb{R}^3 , dot and cross products, projections, lines, planes, area, volumes	9
Matrix transformations in \mathbb{R}^2 , linear transformations	4
Matrix algebra, transpose, inverses, applications to systems of equations	6
Determinants by row reduction and their properties, application to inversion, area	4
Eigenvalues, eigenvectors, diagonalization	4
Polar coordinates, Complex numbers	4
Selected applications (Markov Chains, economic models, least squares approximation, linear programming)	2
TOTAL HOURS	36

* * * * *