



Mathematics 311

Linear Methods II

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

Syllabus

Topics

**Number of
Hours**

Vector spaces, subspaces, independence, basis and dimension,
row and column space of a matrix, rank, applications.

10

Linear transformations, kernel and image, composition,
linear functionals, the double dual, transpose of a linear transformation.

10

Orthogonality, Gram-Schmidt process, orthogonal diagonalization and
least squares approximation, quadratic forms, SVD.

12

Change of basis.

4

TOTAL HOURS

36

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