



Mathematics 213

Honours Linear Algebra I

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

*Syllabus*

**Topics**

**Number of  
Hours**

Systems of linear equations, matrices, reduced row echelon form  
matrix multiplication, inverses.

8

Vector spaces, subspaces, bases and dimension.

4

Linear transformations, kernel and image, isomorphism,  
matrix representation, linear functionals.

8

Determinant functions, permutations, uniqueness of determinants,  
properties of determinants.

8

Eigenvalues, eigenvectors, characteristic polynomials.

---

6

Optional topics.

---

2

**TOTAL HOURS**

---

36

\*\*\*\*\*