

GRANDE PRAIRIE REGIONAL COLLEGE

DEPARTMENT OF SCIENCE AND TECHNOLOGY

MATHEMATICS 1020 A3

WINTER 1997

**Title:** Applied Linear Algebra

**Prerequisite:** Mathematics 1000

**Schedule:** Lectures T R 09:00 to 09:50 in J229  
Seminars AS1 R 15:00 to 15:50 in J201

**Instructor:** Thomas Kaip  
Office J212  
Extension 2963

**Textbooks:** Edwards & Penney, Elementary Linear Algebra  
James Stewart, Calculus (3<sup>rd</sup> Edition)

**Topics:** Systems of equations  
Matrix algebra  
Determinants  
Geometry of  $\mathbf{R}^2$  and  $\mathbf{R}^3$   
Vector spaces and subspaces  
Linear combinations, spanning sets, independence  
Basis and dimension  
Complex numbers and applications  
Orthogonality and Gram-Schmidt  
Eigenvalues and eigenvectors

**Grading:** Assignments 10%  
Midterm Exams 40%  
Final Exam 50%

**Assignments:** There will be approximately 5 assignments. Assignments must be legible and answers must be presented using proper notation.

**Midterm:** There will be two midterm exams. Times are T.B.A.

**Final Exam:** The final exam will be scheduled by the registrar's office.

**Calculators:** Calculators **WILL NOT** be allowed in seminars and exams.