GRANDE PRAIRIE REGIONAL COLLEGE
MATH 1020
WINTER 2009

Title: Engineering Linear Algebra (3,1,0) 3 credits

Transfer: UA, UC*, UL*, AU*, CU, KUC (from GPRC Calendar, * important transfer information, consult the Alberta Transfer Guide)

Prerequisite: MA1000

Schedule: Lecture A3 T R 10:00-11:20 J202
Seminar AS1 M 12:00-12:50 J202

Instructor: Thomas Kaip
Office J212
Phone 539-2963
Email tkaip@gprc.ab.ca

Textbooks: Nicholson,W.K., Linear Algebra with Applications

Grading: Assignments 10%
Quizzes 15%
Midterm 25%
Final Exam 50%

Assignments: Assignments will be given weekly.

Quizzes: Quizzes will be held in the latter 30 minutes of the seminar. There will be a total of n>9 quizzes. The best n-2 quizzes will count towards your grade.

Midterm: If the midterm is missed with a good reason, the weight will be put on the final (ie. the final will be worth 75%). A doctor's note will be required. The midterm is T.B.A.

Finals: Finals are held from April 16 to April 27 inclusive (including Saturdays and evenings). Writing finals early is not permitted.

Calculators: Use of calculators is not permitted on the quizzes or exams.

Content: Systems of linear equations
Gaussian Elimination
Matrices and Matrix Algebra
Linear Combinations, Spanning and Independence
Determinants, Cramer's Rule
Vectors in 2 and 3 Space
Norm of a Vector
Dot Product, Projections, CrossProduct
Lines and Planes
Vector Spaces and Subspaces
Basis and dimension
Complex Numbers
Row Space, column Space, Nullspace
Rank and Nullity
Inner Product Spaces
GramSchmidt Process
Eigenvalues, Eigenvectors,and Eigenspaces
Diagonaliztion
Introduction to Differential Equations
Systems of differential Equations
Applications