MATHEMATICS 1130 A2
FALL SEMESTER 1992-93

TITLE: ELEMENTARY CALCULUS I

SCHEDULE:	Class: Tuesday, Thursday	11:00 am - 12:20 pm
	Seminar: Tuesday	3:00 pm - 4:50 pm
	Wednesday	3:00 pm - 4:50 pm

INSTRUCTOR: Dr. Subhash Karnik
Office: J206
Extension: 2093

TEXT:
i) Howard Anton; Calculus with Analytic Geometry.(Fourth Edition/Brief Edition)

ii) Albert Herr; student's solution manual to accompany (i)

MARKING:

Final	35%
Term test 1	15%
Term test 2	20%
Quizzes	20%
Assignments	10%

GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE

MATHEMATICS 1130/1140

ELEMENTARY CALCULUS I 3 - 2 MA 1130
3 - 1.5 MA 1140
UT(3)

Review of analytic geometry. Functions, limits, continuity. Differentiation of elementary functions. Applications of maxima, minima and rates. Introduction to Integration. Fundamental theorem. Numerical integration. Area and other applicatons of the definite integral.

Prerequisite
Students with MA 30 and MA 31 background take MA1140 while students with MA 30 only background take MA1130

Note: The course description for 1130/1140 and MA1000 are very similar. MA1000 is for Engineering students only. MA 1130/1140 is primarily for other students intending on doing further courses in calculus.

This course is listed among the requirements in honors programs in almost all Science subjects. It is a requirement for many specialization programs in Science subjects including Mathematics, Physics, Geology, Computing Science and Chemistry. It is a requirement in the Agriculture, Forestry, Pre-Veterinary and Pre-Medicine programs. It is also required in the secondary Education program (Mathematics Specialization), and in the Business Administration and Commerce program.

Detailed Description:

Review of inequalities, lines and functions.

Limits, limit theorems, continuity (includes trigometric limits).

The definition of the derivative, rules for finding derivatives.

Differentials, trigonometric differentiation.

Implicit differentiation, higher derivatives.

Applications of the derivative, antiderivatives, maxima and minima, rates, curve sketching.

Rolle's Theorem and the Mean Value Theorem for derivatives.

Area under a curve, definition of definite integral.

The fundamental Theorem of Calculus, calculation of simple integrals.

Numerical integration, trigonometric integration.

Applications of the definite integral.