GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE
COURSE OUTLINE

MATHEMATICS 1130 A2, AS1, AS2
FALL SEMESTER 1993

TITLE: ELEMENTARY CALCULUS I

SCHEDULE:

Class: Mon., Wed., Fri. 9:00 am - 9:50 am
Room   J 204

Tutorial: AS1: Tues. 9:00 am - 10:50 am, J204
          AS2: Wed. 3:00 pm - 3:50 pm, J202

INSTRUCTOR:

Dr. Eric Chislett
Room C 409
Ph. 539-2003

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 %	
1st. term exam	15 %	Fri. Oct. 22
2nd. term exam	20 %	Fri. Nov. 26
Quizzes	20 %	Most Fridays
Assignments	10 %	

NOTE: This course is to be completed without the use of calculators.

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. Differen-
tiation 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 speciali-
zation 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.