GRANDE PRAIRIE REGIONAL COLLEGE
MATHEMATICS 1130 A2 (Fall 2004) – COURSE OUTLINE

Title : **Elementary Calculus I**

Schedule : Lecture A2	**Wed., Fri**	**1:00 p m**	**-**	**2:20 p m**	**J203**
Seminar AS1	**Thur**	**2:30 p m**	**-**	**4:20 p m**	**J204**
AS2	**Tues**	**2:30 p m**	**-**	**4:20 p m**	**J204**

Instructor : Dr. Eric Chislett
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Textbook : **i) Single Variable Calculus, 5th Edition, James Stewart Brooks/Cole Publishing Company**
ii) Student Solutions Manual, Volume One for the above book (Optional)

Course is covered by Chapters 1 to 6.1 from i).

Grading :	**Quizzes**	**15 %**
	Seminar Assignments	**10 %**
	Mid-term Exam	**25 %**
	Final Exam	**50 %**

Mid-term Exam - Wed., Oct. 22, 2003, 1:00 pm – 2:20 pm

Final Exam as per Registrar's Schedule

Students must write the quizzes and exams at the scheduled times.

Note: Calculators are not permitted on the midterm or final exam.

Turn over . . .

Course Description

MA 1130 3 (3 - 2 - 0) UT 75 Hours

Pure Math 30 is a pre-requisite for this course.

(Credit will be granted for only one of MA 1130, MA 1140 or MA 1000.)

From Alberta Transfer Guide 2003 – 2004 :
In the Province of Alberta this course is transferable as follows :

Athabasca	**MATH 265(3)**	**Augustana UC**	**MAT 110(3)**
Canadian UC	**MATH 1xx(3)**	**Concordia UC**	**MAT 113(3)**
King's UC	**MATH 200(3)**	**U of A**	**MATH 113(3)**
U of C	**MATH 251(3)**	**U of L**	**MATH 1560(3)**

The following topics are covered in this course :

i) Functions and their graphs

ii) Limit of a function, Calculating Limits using the Limit Laws, Limits of Trigonometric Functions

iii) Continuity

iv) Derivatives, Differentiation Formulas, Derivatives of Trigonometric Functions, Chain Rule, Implicit Differentiation, Higher Derivatives, Related Rates, Differentials, Linear and Quadratic Method, Newton's Method, Rates of Change in Natural and Social Sciences

v) Maximum and Minimum Values, Mean Value Theorem, Increasing and Decreasing Functions, First Derivative Test, Concavity and Points of Inflection, Second Derivative Test, Limits at Infinity, Horizontal and Vertical Asymptotes, Curve Sketching, Applied Maximum and Minimum Problems, Applications to Economics, Anti-derivatives

vi) Sigma Notation, Area, Definite Integral, Fundamental Theorem of Calculus, Substitution Rule, Areas between Curves.