

**GRANDE PRAIRIE REGIONAL COLLEGE
MATHEMATICS 1130 B2 (Fall 2004) – COURSE OUTLINE**

Title : Elementary Calculus I

Schedule : Lecture B2	W	F	1:00 p m - 2:20 a m	J203
Seminar BS1	T		2:30 p m - 4:20 p m	J204
BS2	R		2:30 p m - 4:20 p m	J204

Instructor : Dr Subhash Karnik
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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 %

Exam Schedule :

Mid-term Exam - Wednesday October 20, 2004 (Tentative)
1:00 p m - 2:20 p m

Final Exam as per Registrar's Schedule to be published in December 2004.

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

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.**