GRANDE PRAIRIE REGIONAL COLLEGE

MATHEMATICS 1130 B3 WINTER 2008-COURSE OUTLINE

Title: Elementary Calculus 1

Schedule: Lecture B3   W F 1:00 pm—2:20 pm E 306
Seminar BS1   T 2:30 pm—4:20 pm J229

Instructor: Tom McLeister
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Textbook: Calculus , 8th Edition, Anton, Bivens and Davis
Wiley
The course covers chapters 1 to 6.1 of the text.

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

Quizzes will be held weekly at the beginning of the Friday lecture period, and seminar assignments will be written weekly during the seminar period.

Mid-term Exam – Wednesday, February 13, 2008 (tentative) 1:00 pm – 2:20 pm

Course Description

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

Pre-requisite: Pure Math 30

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

Transfers:

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

The following topics are covered in this course:

i)   **Review of algebra, analytic geometry and trigonometry**
ii) **Functions and their graphs**

iii) Limit of a function, calculating limits using limit laws, limits of trigonometric functions
iv) Continuity
v) 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
vi) 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

Sigma notation, area, Definite Integral, Fundamental Theorem of Calculus, Substitution Rule, areas between curves

The use of calculators is not permitted in this course.