

GRANDE PRAIRIE REGIONAL COLLEGE  
 MATHEMATICS 1130  
 FALL 1996

<b>Title:</b>	Elementary Calculus I		
<b>Schedule:</b>	Lecture	C2	M W F 12:00 to 12:50 in J226
		CS1	T 15:00 to 16:50 in J229
		CS2	W 15:00 to 16:50 in J201
<b>Instructor:</b>	Franco Carlacci Office C422 Extension 2091		
<b>Textbook:</b>	Howard Anton, Calculus (Brief Edition) 5/E Albert Herr. Student's Solution Manual to Howard Anton Calculus		
<b>Grading:</b>	Assignments		10%
	Worksheets		15%
	Midterm Examination		25%
	Final Examination		50%
<b>Assignments:</b>	There will be 4 assignments given throughout the term.		
<b>Seminars:</b>	During the first hour, assistance in general textbook problems will be covered. During the second hour, a worksheet will be given which is to be completed and handed in at the end of the seminar period for grading.		
<b>Midterm:</b>	The Midterm Examination will be given during the week of October 13-19.		
<b>Final:</b>	The Final Examination will be set by the Registrar's Office.		
<b>Calculators:</b>	Calculators may be used in classes and seminars to check work. No calculators will be permitted in the midterm examination and the final examination.		

MATHEMATICS 1130/1140

ELEMENTARY CALCULUS I	3 - 2	MA1130
	3 - 1.5	MA1140

1.1. Prerequisites

Students with Math 30 and Math 31 background take MA 1140 while students with Math 30 only background take MA 1130.

This course is listed among the requirements in honours 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.

Course Contents

- Review of inequalities, lines and functions
- Limits, limit theorems, continuity ( includes trigonometric limits )
- The definition of the derivative, rules for finding derivatives
- Differentials, trigonometric differentiation
- Implicit differentiation, higher derivatives
- Applications of the derivative, maxima and minima, rates, curve sketching
- Rolle's Theorem and the Mean Value Theorem for derivatives
- Antiderivatives, area under the curve, definition of definite integral
- The fundamental Theorem of Calculus, calculations of simple integrals, method of substitution
- Numerical integration, trigonometric integration
- Application of the definite integral to area