



## **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 :**

**In the Province of Alberta this course is transferable as follows :**

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

**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, Local Linear Approximations**
- 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, Anti-derivatives**
- vi) Sigma Notation, Area, Definite Integral, Fundamental Theorem of Calculus, Substitution Rule, Areas between Curves.**