MATHEMATICS 31
MAT3211
5 Credit Course

Course Overview	The Mathematics 31 course is designed to introduce students to the mathematical methods of calculus. The course acts as a link between the outcomes of the Mathematics 10-20-30 program and the requirements of the mathematics encountered in post-secondary programs. The course builds on existing skills in working with functions and expands this knowledge to include a study of limits in preparation for a study of differential and integral calculus. The methods of calculus are applied to problems encountered in the areas of science, engineering, business and other fields of endeavour.
Prerequisite	*Please refer to Alberta Education's Provincially Authorized Senior High School Courses and Course Codes Document*
Required Materials & Resources	• Eight Modules and Eight Assignment Books • Textbook – Calculus: A First Course (McGraw-Hill Ryerson) • Graphing scientific calculator
Learning Outcomes	*The student will:* A. construct and solve models describing mathematical situations in a broad range of contexts, and to use the appropriate technology to approximate difficult models and carry out long calculations B. demonstrate the conceptual underpinnings of calculus to determine limits, derivatives, integrals, rates of change and averages, using geometrical representations C. translate among symbolic, diagram and graphical representations of situations that describe both continuous and discrete functions of one real variable D. determine limits, derivatives, integrals and rates of change E. use calculus concepts to describe data distributions and random variables at an introductory level
Note	***Within Alternative Education all teachers are required to follow a common course outline and gradebook set up.***
Assessment	The student's grade is determined by the knowledge the student has acquired based on the program of studies and the skills the student is able to show in articulating his or her knowledge. The student's grade will be calculated based on the following: **Coursework –25%** **Quizzes – 25%** **Midterm – 25%** **Final Exam – 25%**
Topics of Study	**MODULE** **TITLE** 1 *Precalculus* 2 *Limits* 3 *The Derivative* 4 *Trigonometry* 5 *Curve Sketching* 6 *Applications of The Derivative* 7 *The Integral* 8 *Exponential and Logarithmic Functions*
An Important Note About Assessment	A wide range of assessment information is used in the development of a student's final grade. Within Alternative Education, individualized assessments provide specific information regarding student progress and overall performance in the course. Student assessments may vary from student to student to adapt to differences in student needs, learning styles, preferences and paces. The teacher will apply best teaching practices to determine appropriate assessment.

TEACHER'S CONTACT INFORMATION:	
Teacher's Name:	
Teacher's Phone Number:	
Teacher's Email Address:	