GEORGE HARVEY COLLEGIATE INSTITUTE

MCV4U – Grade 12 Calculus and Vectors, University

Toronto District School Board

Teacher: A. Chor **Revision Date:** February 3, 2012
Assistant Curriculum Leader: A. Chor **Credit Value:** One (1) Credit
Prerequisite: MHF4U (co-requisite), MCR3U or equivalent

COURSE DESCRIPTION

This course builds on students' previous experience with functions and their developing understanding of rates of change. Students will solve problems involving geometric and algebraic representations of vectors and representations of lines and planes in three dimensional space; broaden their understanding of rates of change to include the derivatives of polynomial, sinusoidal, exponential, rational, and radical functions; and apply these concepts and skills to the modelling of real-world relationships. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. This course is intended for students who choose to pursue careers in fields such as science, engineering, economics, and some areas of business, including those students who will be required to take a university-level calculus, linear algebra, or physics course.

TEXTBOOKS   Calculus and Vectors 12 McGraw-Hill Ryerson: 2008
ISBN-13**:** 978-0-07-073582-8 (Cost: $74.95 plus taxes and shipping.)

REQUIRED MATERIALS

▪ 3-Ring Binder   ▪ Scientific Calculator   ▪ Writing Utensils ▪ Student Agenda

COMMUNICATION OF STUDENT ACHIEVEMENT

Student progress and achievement are communicated to the students on an on-going basis through: interim progress reports, student-teacher conferences, verbal/written feedbacks, daily practices, formative assessments, and summative evaluations. See student agenda for detailed information on mid-term and final reporting of student achievement of curriculum expectations and learning skills.

Learning is the responsibility of the students. If students experience any kind of difficulty with their studies, access to remedial help is available from the teacher by arrangement. The teacher may contact parents/guardians regarding any concerns about student progress and achievement.

A parent/guardian may contact the teacher regarding any concern or issue about student progress and achievement in person (preferably by appointment), by phone (416) 394-3180 ext. 20080, or via email: angel.chor@tdsb.on.ca. If the student is over 18 years of age, written **student consent** must be obtained prior to any discussion with the teacher regarding student achievement at school.

ACCOMMODATIONS FOR EXCEPTIONAL AND ESL/ELD STUDENTS

Appropriate accommodations for exceptional and ESL/ELD students are provided by the teacher following recommendations as outlined in students' Individual Education Plan (IEP) and/or Annual Education Plan (AEP). See student agenda for more information.

ASSESSMENT/EVALUATION

The assessment/evaluation in this class will consist of the following:

- Mini-Test/Tests
- Assignments
- Written Exam
- Culminating Activity

See student agenda for detailed information on school policies regarding attendance, absences, late, homework, late assignments, missed work/evaluations, and academic integrity.

SUMMATIVE EVALUATION

Summative evaluation is represented by a percentage grade which is a weighted average of the four achievement categories as outlined in the Ontario curriculum documents:

Achievement Categories	Knowledge	Thinking/Inquiry	Communication	Application
Percentage Weightings	30 %	20 %	20 %	30 %

Term Evaluation (70%):

Unit	Topic	Approx. Time	Evaluations
1.	**Rates of Change & Limits**	16 Hours	Mini-Tests (On-going)-10 wt. Assignment (On-going)-5 wt. Summative Evaluation (End of unit)-20 wt.
2.	**Derivatives**	14 Hours	Mini-Tests (On-going)-10 wt. Assignment (On-going)-5 wt. Summative Evaluation (End of unit)-20 wt.
3.	**Curve Sketching**	14 Hours	Mini-Tests (On-going)-10 wt. Assignment (On-going)-5 wt. Summative Evaluation (End of unit)-20 wt.
4.	**Derivatives of Sinusoidal Functions**	12 Hours	Mini-Tests (On-going)-10 wt. Assignment (On-going)-5 wt. Summative Evaluation (End of unit)-20 wt.
5.	**Exponential & Logarithmic Functions**	13 Hours	Mini-Tests (On-going)-10 wt. Assignment (On-going)-5 wt. Summative Evaluation (End of unit)-20 wt.
6.	**Geometric Vectors**	13 Hours	Mini-Tests (On-going)-10 wt. Assignment (On-going)-5 wt. Summative Evaluation (End of unit)-20 wt.
7.	**Cartesian of Vectors**	14 Hours	Mini-Tests (On-going)-10 wt. Assignment (On-going)-5 wt. Summative Evaluation (End of unit)-20 wt.
8.	**Lines and Planes**	14 Hours	Mini-Tests (On-going)-10 wt. Assignment (On-going)-5 wt. Summative Evaluation (End of unit)-20 wt.

Final Evaluation (30%):

Final evaluations cover all strands and overall curriculum expectations of the course, across all four achievement categories.

Final Exam	25 %	End of course
Culminating Task	5 %	End of course

This course outline is subject to change with notice to students.

I have read the above information and I understand the expectations of this course.

Student Signature: _____   Parent/Guardian Signature: _____