

St. Clair Catholic District School Board
Student Information Sheet/ Outline of Course Study

School	Ursuline College Chatham
Department	Mathematics
Course Title	Mathematics for College Technology (MCT4C0)
Grade and Level	Grade 12, College Preparation
Credit	One full
Prerequisite	Functions and Applications, Grade 11, University/College Preparation (or Functions, Grade 11, University Preparation)
Textbook	Mathematics for College Technology (Addison-Wesley)
Teacher(s)	Ms. K. Kearns
Department Head	Mrs. M. Taylor-Joyes
Ministry Document	Mathematics Grade 11 and 12 (revised 2007)
Date	February 2010

Course Description

This course enables students to extend their knowledge of functions. Students will investigate and apply properties of polynomial, exponential, and trigonometric functions; continue to represent functions numerically, graphically and algebraically; develop facility in simplifying expressions and solving equations; and solve problems that address applications of algebra, trigonometry, vectors, and geometry. Students will reason mathematically and communicate their thinking as they solve multi-step problems. This course prepares students for a variety of college technical programs.

How this course supports the Ontario Catholic Graduate Expectations:

The following expectations from the Ontario Catholic Graduate Expectations will be stressed throughout the course: The graduate is expected to be: - An effective communicator who reads, understands and uses written materials effectively; - A reflective, creative and holistic thinker who thinks reflectively and creatively to evaluate situations and solve problems ; - A self-directed , responsible, lifelong learner who sets appropriate goals and priorities in school , work and personal life; - A collaborative contributor who works effectively as an independent team member; - A responsible citizen who accepts accountability for one's one actions.

How this course supports the competencies of Choices Into Action:

Career exploration activities through classroom experience (page 19, Choices into Action)

1) Expectations regarding Learning Skills

It is expected that students will demonstrate the following:

(this is not intended to be an exhaustive list)

- Independent learning ability
- Team work ability
- Organizational skills on a daily basis
- Strong work habits during class time
- Completed homework and assignments
- Initiative in all areas of the course

Learning skills will be assessed according to criteria, which have been clearly communicated to students and will be reported separately from student achievement of the curriculum

expectations. The student's demonstrated learning skills in each course will be evaluated using the four-point scale, E- Excellent, G- Good, S- Satisfactory, N – Needs Improvement.

2) Overall expectations for student learning

Through this course, the student will be expected to demonstrate knowledge, skills and values related to the following strands:

<p>Strand 1: Polynomial Functions</p> <ul style="list-style-type: none"> Recognize and evaluate polynomial functions, describe key characteristics of their graphs, and solve problems using graphs of polynomial functions Make connections between the numeric, graphical, and algebraic representations of polynomial functions Solve polynomial equations by factoring, make connections between functions and formula, and solve problems involving polynomial expressions arising from a variety of applications 	<p>Strand 2: Exponential and Logarithmic Functions</p> <ul style="list-style-type: none"> Solve problems involving exponential equations graphically, including problems arising from real-world applications Solve problems involving exponential equations algebraically using common bases and logarithms, including problems arising from real-world applications
<p>Strand 3: Trigonometric Functions</p> <ul style="list-style-type: none"> Determine the values of the trig ratios for angles less than 360°, and solve problems using the primary trig ratios, the sine and cosine laws Make connections between the numeric, graphical and algebraic representations of sinusoidal functions Understand that sinusoidal functions can be used to model periodic phenomena, and solve related problems, including those arising from real-world applications 	<p>Strand 4: Applications of Geometry</p> <ul style="list-style-type: none"> Represent vectors, add and subtract vectors, and solve problems using vector models, including those arising from real-world applications Solve problems involving two-dimensional shapes and three-dimensional figures arising from real-world applications Determine circle properties and solve related problems, including those arising from real-world applications

3) Individual Education Plan

Whenever accommodations are made to address student learning needs, or alternative or modified expectations are identified for a student, these accommodations, modifications, or alternative expectations will be outlined in an IEP and will be communicated to parents.

4) Course breakdown & assessment and evaluation strategies

Unit title/Description	Suggested Timing
Polynomial Functions	20 periods
Exponential and Logarithmic Functions	25 periods

Trigonometric Functions	20 periods
Applications of Geometry and Vectors	20 periods

5. Teaching/Learning Strategies

Instruction in this course will be evaluated according to the following breakdowns:
Group work, pairs activities, individual work, computers and graphical calculators.

5) Assessment and Evaluation

Student achievement of the learning expectations will be evaluated according to the following breakdowns:

Categories of Knowledge, Skills and Values	Weighting (%)	
	Term Evaluation(100%) Evaluation	Final
Knowledge & Understanding	45	Culminating
Thinking, Inquiry, Problem Solving	15	Assessment
Communication	15	And
Applications	25	Final Exam
BREAKDOWN OF FINAL MARK	70% of term mark	30%

6) School, department and classroom policies

- a) See student handbook for school rules
- b) **HOMEWORK** will be assigned almost every day. Depending on the topic, the time required to complete the assignment will vary, but at the grade twelve level the homework should require 30-35 minutes per night. To ensure success, any suggested homework assignments are to be completed for the beginning of the next class. The completion of assignments, neat and orderly notes, and routine correction of problems are essential for success.
- c) **REGULAR** and **PROMPT** attendance is required in order to be successful. If a student is absent it is their responsibility to make up for missed work. Notes should be copied from a reliable student, and homework exercises attempted. Extra help is available and can be arranged with the teacher.
- d) **TESTS AND ASSIGNMENTS MISSED OR LATE**. The reasons for the absence or late will be taken into account, but a mark of zero can be assigned to the student for circumstances that seem to warrant such a mark. Assignments not submitted within the stated time frame may be cause for the student's overall grade to fall to a lower level.

Every effort should be made to write the test at the scheduled time period. Below are some test and assignment procedures:

- i) If you know that you will be away for a scheduled test and/or assignment due date for some legitimate reason, inform your teacher and make alternate arrangements before you leave.

- ii) If a test is missed due to a legitimate or sudden absence, it will be written at a time determined by the teacher after consultation with the student. The usual date for writing the test would be the first day back after the absence. A note signed by the parent/guardian must support such legitimate absences.
- iii) As a general rule, there will be no make-up tests or assignments. If special circumstances warrant, make-up tests or assignments may be provided to students who have demonstrated that earlier difficulties have been corrected.

To the student, Parent(s) or Guardian(s):

We have read and understand this Students Information Sheet/Outline of Course of Study

Course Code: MCT 4CO (Mathematics For College Technology, Grade 12)

Student: _____

Date: _____

Parent/Guardian: _____

Date:
