

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

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School	Ursuline College Chatham
Department	Mathematics
Course Title	Mathematics of Data Management (MDM4U0)
Grade and Level	Grade 12, University Preparation
Credit	One full
Prerequisite	Grade 11 Functions, University Preparation or Grade 11 Functions and Applications, University/College Preparation
Textbook	Mathematics of Data Management (McGraw-Hill- Ryerson)
Department Head	Mrs. M. Taylor-Joyes
Ministry Document	Mathematics Grade 11 and 12 (revised 2007)
Date	September 2011/February 2012

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**Course Description**

This course broadens students' understanding of mathematics as it relates to managing information. Students will apply methods for organizing large amounts of information; solve problems involving probability; and carry out a culminating investigation that integrates statistical concepts and skills. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. Students planning to pursue university programs in business, the social sciences or the humanities will find this course of particular interest.

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**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)

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**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:

<b>Strand 1: Organization of Data for Analysis</b> <ul style="list-style-type: none"><li>organize data to facilitate manipulation and retrieval</li><li>solve problems involving complex relationships with the aid of diagrams</li><li>model situations and solve problems involving large amounts of information using matrices</li></ul>	<b>Strand 2: Counting and Probability</b> <ul style="list-style-type: none"><li>solve counting problems and clearly communicate the results</li><li>determine and interpret theoretical probabilities using combinatorial techniques</li><li>design and carry out simulations to estimate probabilities</li></ul>
<b>Strand 3: Probability Distributions</b> <ul style="list-style-type: none"><li>demonstrate an understanding of discrete probability distributions, represent them numerically, graphically and algebraically, determine expected values and solve related problems from a variety of applications</li><li>demonstrate an understanding of continuous probability distributions, make connections to discrete distributions, determine standard deviations, describe key features of the normal distribution, and solve related problems from a variety of applications</li></ul>	<b>Strand 3: Statistics</b> <ul style="list-style-type: none"><li>demonstrate an understanding of standard techniques for collecting data</li><li>analyze data involving one variable using a variety of techniques</li><li>solve problems using the normal distribution</li><li>describe the relationship between two variables by interpreting the correlation coefficient</li><li>evaluate the validity of statistics drawn from a number of sources</li></ul>
<b>Strand 5: Integration Techniques of Data Management</b> <ul style="list-style-type: none"><li>carry out a culminating project on a topic or issue of significance that requires the integration and application of the expectations of the course</li><li>present the project to an audience and critique the projects of others</li></ul>	

## 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
Organization of Data for Analysis	25 periods
Counting and Probability Probability Distributions	25 periods
Statistics	25 periods
Integration of the Techniques of Data Management	10 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.

#### 6) 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 Evaluation
Knowledge & Understanding	40	Culminating
Thinking, Inquiry, Problem Solving	20	Assessment
Communication	15	And
Applications	25	Final Exam
BREAKDOWN OF FINAL MARK	70% of term mark	30%

#### 7) 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 45-60 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: MDM 4U0 (Grade 12 Mathematics of Data Management)

Student: \_\_\_\_\_

Date: \_\_\_\_\_

Parent/Guardian: \_\_\_\_\_

Date:

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