| PROGRAM AREA: Mathematics | COURSE NAME: Mathematics of Data Management |
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| COURSE CODE: MDM4U1 | GRADE/LEVEL: 12 |
| PREREQUISITE: MCR3U or MCF3M | CREDIT VALUE: 1 |

Cost of Textbook/equipment replacement: $\$ 100$
Additional Course Costs: $\qquad$
(if lost or damaged)

Textbooks(s)/Resources: Mathematics of Data Management<br>McGraw-Hill Ryerson<br>Canton, Erdman, Irvine, et al

Fathom and Excel (software)

COURSE DESCRIPTION: This course broadens students' understanding of mathematics as it relates to managing data. Students will apply methods for organizing and analysing large amounts of information; solve problems involving probability and statistics; 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 enter university programs in business, the social sciences, and the humanities will find this course of particular interest.

## CURRICULUM STRANDS (UNITS) and OVERALL EXPECTATIONS:

1. Counting and Probability
*solve problems involving the probability of an event or a combination of events for discrete sample spaces
*solve problems involving the application of permutations and combinations to determine the probability of an event
2. Probability Distributions
*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
*demonstrate an understanding of continuous probability distributions, make connections to discrete probability distributions, determine standard deviations, describe key features of the normal distribution, and solve related problems from a variety of applications
3. Organization of Data For Analysis
*demonstrate an understanding of the role of data in statistical studies and the variability inherent in data, and distinguish different types of data
*describe the character5istics of a good sample, some sampling techniques, and principles of primary dta collection, and collect and organize data to solve a problem

## CURRICULUM STRANDS (UNITS) and OVERALL EXPECTATIONS: (continued)

4. Statistical Analysis
*analyse, interpret, and draw conclusions from both one-variable data and two-variable data using numerical and graphical summaries
*demonstrate an understanding of the applications of data management used by the media and the advertising industry and in various occupations

## Assessment and Evaluation

Assessment and Evaluation are based on the expectations and levels of achievement outlined in the provincial curriculum document for each subject. A wide range of assessment and evaluation opportunities allows students to demonstrate their learning in a variety of ways. This information provides the basis for reporting student grades on the Provincial Report Card.
A final mark will be calculated using the following categories or strands.
70\% Course Evaluation: (based on the following \% breakdown of categories/strands):
All four achievement categories/strands do not need to be evaluated in each evaluation task.

| Communication <br> $(20 \%)$ | Knowledge/Understanding <br> $(30 \%)$ | Thinking and Inquiry <br> $(20 \%)$ | Application/Making <br> Connections (30\%) |
| :--- | :--- | :--- | :--- |
| Tests | Quizzes | Tests | Tests |
| Assignments | Tests | Assignments | Assignments |
| Presentations |  |  |  |
| Math conventions | Assignments |  |  |
| Math conventions |  |  | Math conventions |

30\% Final Examination (based on the above \% breakdown of categories/strands):
Components of Summative Evaluation: 1. _Examination_(20) $\qquad$
2. _Statistics Assignment_(10) $\qquad$
** A detailed explanation of the culminating activity/activities will be distributed to students in the class.

Learning Skills: The report card provides a record of the learning skills, demonstrated by the student in every course in the following six categories: Responsibility, Independent Work, Initiative, Organization, Collaboration, Self-Regulations. The learning skills are evaluated using a four-point scale (E-Excellent, G-Good, S-Satisfactory, $N$-Needs Improvement).

Please refer to the Student Agenda Planner for details regarding the Achievement Chart and Learning Skills.
We believe that homework completion is essential for student success.

