



Grade 12 Data Management Online

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.

Overall Expectations

By the end of this course, students will:

- 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.
- 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.
- 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 characteristics of a good sample, some sampling techniques, and principles of primary data collection, and collect and organize data to solve a problem.
- Analyse, interpret, and draw conclusions from one-variable data using numerical and graphical summaries;
- Analyse, interpret, and draw conclusions from two-variable data using numerical, graphical, and algebraic summaries;
- Demonstrate an understanding of the applications of data management used by the media and the advertising industry and in various occupations.
- Design and carry out a culminating investigation that requires the integration and application of the knowledge and skills related to the expectations of this course;



- Communicate the findings of a culminating investigation and provide constructive critiques of the investigations of others.

Unit Breakdown

Data Management is broken down into the following units:

Unit	Title
1	One Variable Statistics
2	Two Variable Statistics
3	Permutations
4	Combinations
5	Probability
6	Discrete Probability Distributions
7	Continuous Probability Distributions

Mark Breakdown

The overall course is broken into Term Work and the Final Exam:

Section Percentage

Term Work	70%
Independent Study Project	10%
Final Exam	20%

All evaluations for the course are broken into the following skill category weightings:

Section Percentage

Knowledge	30%
Thinking	20%
Communication	20%
Application	30%



Each activity accumulates the following mark total (Note: Marks are weighted by skill categories, not by activities):

Section Percentage

Quizzes 6.00%

Tests 31.50%

Assignments 31.50%

Forums 1.00%

Independent Study Project 10.00%

Final Exam 20.00%

Textbook

There is no required textbook for this course.

For additional resources, the recommended textbooks are:

Mathematics of Data Management, McGraw-Hill Ryerson.

Data Management, Nelson.