



Westside Secondary School

Orangeville, Ontario, Canada



519-938-9355

Course Outline

www.ugdsb.on.ca/westside

Course: MDM 4U

Teacher: Greg Heaslip

Program Leader: R. Marchildon

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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.

Prerequisite: Functions, Grade 11, University Preparation, or Functions and Applications, Grade 11, University/College Preparation

Big Ideas (overall learning outcomes for the course):

- Knowing how to analyze data allows us to make informed decisions
- Probability is the underlying mathematics behind chance

Overall Curriculum Expectations:

By the end of this course, students will:

- 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.
- 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.



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Instructional Strategies:

Westside teaching staff will use a variety of instructional strategies to help students develop and improve skills in the following areas: character, citizenship, communication, critical thinking and problem solving, collaboration and teamwork, and creativity and imagination.

Assessment and Evaluation:

Formative assessments are used to improve student learning by providing varied opportunities to demonstrate an understanding of course expectations in preparation for summative evaluations. Summative evaluations test groups of key expectations. Failure to complete a summative evaluation may result in the expectations of the course not being met and the credit not being granted. Where appropriate, there may be opportunities to complete mastery quizzes throughout a unit which may lead to a reduced summative assessment.

The following soft skills will be assessed:

Responsibility, Organization, Independent Work, Collaboration, Initiative, Self-Regulation

More details about Westside's Assessment and Evaluation Policy is available at:

<http://www.ugdsb.ca/westside/wpcontent/uploads/sites/74/2016/12/Westside-Assessment.pdf>

Late Policy

Students are expected to complete all assigned work and submit it by the teacher's established due date. Every attempt will be made to encourage students to complete all assigned work on time so their grade represents their actual achievement. Should a student submit work past the due date, a late mark penalty will be assigned. All summative assessments must be submitted for course credit. Please see **Westside's Assessment and Evaluation Policy** for more details.

	Term Work (70%)
Unit of Study	Summative Evaluations
One & Two Variable Statistics	Paper & Pencil Test, Assessment Task/Project
Permutations & Combinations	Paper & Pencil Test, Assessment Task/Project
Probability	Paper & Pencil Test, Assessment Task/Project
Continuous & Discrete Probability	Paper & Pencil Test, Assessment Task/Project
	Final Summative (30%)
All units	Mark Analysis Summative (10%)
All units	Final Exam (20 %)



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Course Materials and Replacement Cost:

Textbook: Mathematics of Data Management - \$99

Student Expectations

Every student enrolled in Mathematics at Westside is expected to:

- be prepared for class each and every day. This means you bring a writing utensil, calculator and paper with you to class
- actively participate in class discussions
- be on time to class
- complete homework assigned
- learn to problem solve using the techniques you will learn in class

Final Assessments/Examinations

Culminating activities for each unit must be completed by the student in order to achieve the credit. Failure to complete any one of them may result in loss of credit.

There are no extensions or exemptions for final assessments without the approval from an administrator.

I have read and understand the Course Outline: (all 3 pages)

Student Name (please print): _____ Signature: _____

Students email (please print) _____

Parent/Guardian Name (please print): _____ Signature: _____

Parent/Guardian email (please print): _____