

North Grenville District High School

Upper Canada District School Board



DATE: February 4, 2016

COURSE OUTLINE:

Course: MDM 4U, Mathematics of Data Management, Grade 12

Prerequisite: Grade 11 Functions & Applications, MCF 3M or Grade 11 Functions, MCR 3U

Credit Value: 1

*This course was designed with the Ontario Curriculum Policy Document
<http://www.edu.gov.on.ca/eng/curriculum/secondary/>*

Teacher: Mr. C. Stewart

Principal: Mr. D. Cole

COURSE DESCRIPTION

"This course broadens students' understanding of mathematics as it relates to managing data. Students will apply methods for organizing and analyzing 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" (p111, [The Ontario Curriculum: Grades 11 and 12-Mathematics, Revised 2007](#)).

COURSE WEBSITE

Students and parents can access course information by going to www.ltngdhs.weebly.com and selecting [MDM 4U](#) from the Semester 2 list of courses under "Find Your Class".

AREAS/UNITS OF STUDY

Counting & Probability	<ul style="list-style-type: none">-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
Probability Distributions	<ul style="list-style-type: none">-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
Organization of Data for Analysis	<ul style="list-style-type: none">-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
Statistical Analysis	<ul style="list-style-type: none">-analyze, interpret, and draw conclusions from one-variable data using numerical and graphical summaries-analyze, 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

Culminating Data Management Investigation	-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
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SAMPLE RESOURCE MATERIALS

Textbook: *Mathematics of Data Management 12, Nelson, 2003*

Other: A scientific calculator is required for in-class assessments of learning (e.g., tests and performance-based tasks). Students are encouraged to use available technologies, including their own and where appropriate, to support their learning. Some suggested apps, other software, websites and videos are available at <http://ltngdhs.weebly.com/tools--resources.html>.

ASSESSMENT, EVALUATION, and MARK BREAKDOWN

Term Report		Final Report	
Knowledge & Understanding	25%	Term Work	
Thinking/Inquiring/Problem Solving	25%	-Counting Principles: Culminating	10%
Communication	25%	-Statistical Analysis: Culminating	20%
Application	<u>25%</u>	-Unit Tests & Other Evaluations	40%
	100%	Exam	<u>30%</u>
			100%

To ensure that assessment and evaluation are valid and reliable, and that they lead to improvement of student learning in Mathematics, strategies will be used that:

- address both what students learn and how well they learn
- are varied in nature, administered over a long period of time, and designed to provide opportunities for students to demonstrate the full range of their learning
 - students can use digital process portfolios to document their learning and complete projects that showcase their skills and understanding
- are appropriate for the learning activities used, the purpose of instruction, and the needs and experiences of the students
- are fair to all students
- ensure that each student is given clear directions for improvement
 - students can then incorporate feedback into improving their learning
- promote students' ability to assess their own learning and set specific goals
 - include the use of samples of students' work that provide evidence of their achievement

Additional Information concerning assessment practices, students and parents are encouraged to review <http://ltngdhs.weebly.com/assessment.html>.

CLASSROOM EXPECTATIONS

LESSONS & LEARNING OBJECTS:

-Details concerning what students are learning and objects (e.g., assignments, readings, videos, practice, etc.) that they can use to support their learning will be updated regularly and maintained in the form of a digital calendar. This calendar is linked off of the course webpage, but can be directly accessed at:

<https://goo.gl/1Xw61j>

Students are encouraged to use this table in keeping track of their learning in the course.

-Messaging service ("Remind"): Students and parents can use [Remind](#) to connect instantly with their teacher. This is a free, safe, and easy way to staying engaged with what's going on in class, receiving feedback on learning, and staying aware of important announcements.

- To register, text the following message to 1-(514) 667-8787
 - Message: @ngmdm4u

CLASSROOM EXPECTATIONS:

-It is important that we continuously show respect for ourselves, others, and both the learning environment and process.

-Our class is a community.

- Making mistakes is a natural part of the learning process. It is critical that we not only expect them but that we respect and inspect them.
- We learn to think and think about learning. Students are encouraged to follow mathematical participation goals.
- Being prepared for class helps us to move forward together. Assigned work is to be completed to the best of your ability and in a timely manner.
 - Use MSIP to your advantage and create opportunities at home when you know that you need to spend more time with a concept, assignment, etc.

-The use of cell phones (and other personal tech) is encouraged to assist students with learning mathematics but must be used for just that: as a learning tool

- Students are encouraged to pay attention to those days that are deemed “tech days” at the beginning of each class

EXTRA HELP:

Students who are having difficulties that aren’t able to be resolved in class are encouraged to take advantage of extra help outside of class time. Assistance may be available from their MSIP teacher. Extra help will also be available, from the Math Department, over lunch and/or after school. Students are encouraged to speak to their teacher about arranging extra help sessions.

INSTRUCTOR CONTACT INFORMATION

E-mail address: christopher.stewart@ucdsb.on.ca

School phone: (613) 258-3481 x-3519

Complete, detach, and return the Agreement (below) to Mr. Stewart on or before **Monday, February 8th**.

AGREEMENT – MDM 4U

Parents/Guardians: Periodically, I like to send out e-mails regarding what students are learning, important dates, and other information. By providing your e-mail address, I can let you know what is happening in the course. Please return with your son/daughter to school or scan the completed form to christopher.stewart@ucdsb.on.ca. Thank you.

Student Name

Student Signature

Parent/Guardian Name

Parent/Guardian E-mail(s)

Parent/Guardian Phone Number(s)

Parent/Guardian Signature

Date

At the beginning of the semester, I will be sending out a welcome email to parents.

Please check ____ if you **have** received the “Welcome to ...” email.

Please check ____ if you **have not** received the “Welcome to ...” email. If not, I will ensure that I have the correct email being used when corresponding with you.