Course of Study

1. Course Details

Lawrence Park C.I

TDSB

Teacher(s) : Kevin Thomas

Faculty : MATHEMATICS

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Name of ACL : Chi Ho

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Textbooks :
Data Management 12
McGraw-Hill Ryerson (2014)

Date revised : September 2019

Course Name : Mathematics of
                         Data Management

Course Code : MDM4U1

Prerequisite Course Code : Functions, Grade 11 University Prep. Or Functions and Applications, Grade 11, University/College Prep.

Credit Value : 1

Essential Resource Materials:
       Sharp EL-510RNB Scientific Calculator

2. Overall Goals

Overall Expectations:

Counting And Probability
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.

Probability Distributions
By the end of this course, students will:
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, making 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
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.

Statistical Analysis
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.

3. Learning Skills and Work Habits

Evaluated on Report Card as:
E (excellent); G (good); S (satisfactory); N (needs improvement)

The Learning Skills demonstrated by a student in every course are evaluated in the following six categories: Responsibility, Organization, Independent Work, Collaboration, Initiative, and Self-regulation. The Learning Skills are evaluated using a four-point scale. The goal for each student is to improve Learning Skills which will translate into improved student's overall success.

In addition, completion of the assigned homework/assignments on time will contribute to student's success. We also know that regular attendance in all classes is essential for success; please avoid scheduling appointments during school time.

Students are expected to demonstrate academic honesty on all assignments, presentations, tests, and examinations. Student who cheat or plagiarize will receive a mark of zero for the assignment, presentation, test, or examination.

Responsibility	The student: • fulfils responsibilities and commitments within the learning environment; • completes and submits class work, homework, and assignments according to agreed-upon timelines; • takes responsibility for and manages own behaviour.
Organization	The student: • devises and follows a plan and process for completing work and tasks; • establishes priorities and manages time to complete tasks and achieve goals; • identifies, gathers, evaluates, and uses information, technology, and resources to complete tasks.
Independent Work	The student: • independently monitors, assesses, and revises plans to complete tasks and meet goals; • uses class time appropriately to complete tasks; • follows instructions with minimal supervision.
Collaboration	The student: • accepts various roles and an equitable share of work in a group; • responds positively to the ideas, opinions, values, and traditions of others; • builds healthy peer-to-peer relationships through personal and media-assisted interactions; • works with others to resolve conflicts and build consensus to achieve group goals; • shares information, resources, expertise and promotes critical thinking to solve problems and make decisions.
Initiative	The student: • looks for and acts on new ideas and opportunities for learning; • demonstrates the capacity for innovation and a willingness to take risks; • demonstrates curiosity and interest in learning; • approaches new tasks with a positive attitude; • recognizes and advocates appropriately for the rights of self and others.
Self-regulation	The student: • sets own individual goals and monitors progress towards achieving them • seeks clarification or assistance when needed • assesses and reflects critically on own strengths, needs, and interests; • identifies learning opportunities, choices, and strategies to meet personal goals.

4. Teaching/Assessment and Evaluation Strategies - Course Work (70%)

Students will demonstrate achievement of all the overall expectations of the course. Missed and/or incomplete assignments will have an impact on the final grade where there are a significant number of curriculum expectations that have not been evaluated because of missed assignments. Timelines and units may be adjusted to accommodate student needs.

Unit #	Culminating Tasks	Achievement Chart Focus (All culminating tasks include knowledge/understanding, thinking, communication, and application categories)	Time Line No. of Periods
1	Quizzes and Tests	Introduction to Probability	10
2	Quizzes and Tests	Permutations	10
3	Quizzes and Tests	Combinations	10
4	Quizzes and Tests	Probability Distributions for Discrete Variables	10
5	Quizzes and Tests	Organization of Data Analysis	9
6	Quizzes and Tests	One Variable Data	13
7	Quizzes and Tests	Probability Distributions for Continuous Variables	12
8	Quizzes and Tests	Two Variable Data Analysis	11
9	Quizzes and Tests	Culminating Investigations	10

4. Teaching/Assessment and Evaluation Strategies - Final Evaluation (30%)

All Students must take part in the culminating activities for each course at every grade level of study

Summative Tasks	Achievement Chart Focus	Weighting
Summative Evaluation	All topics in Data Management	30%

5. Achievement Chart

Achievement Categories For Course Work	Description	Weighting
Knowledge/Understanding	- knowledge of facts and terms - understanding concepts, principles, and theories - understanding of relationships between concepts	35 %
Thinking	- critical thinking skills (analyzing, detecting bias) - creative thinking (problem solving) - inquiry skills (formulating questions; conducting research; analyzing, interpreting and evaluating information; drawing conclusions)	15 %
Communication	- communication of information and ideas - use of visuals and technology - multimedia - oral communication (debates, discussions, listening skills, role-playing) - written communication (short essays, writing in role)	15 %
Application	- application of concepts, skills, and procedures - transfer of concepts, skills, and procedures to new ideas - making logical conclusions or generalizations - making predictions and planning courses of action - making connections	35 %

6. Term Grades for Provincial Reports

Term Grades for Provincial Reports throughout the Year

The grade for each term/reporting period is based on the evaluations that have been conducted to that point in the course and will be preliminary and tentative. They will be based on the most consistent level of achievement to that point in time, but some of the overall expectations, strands, and units will not have been addressed. The students' grades will most likely change when the students' entire work is evaluated by the end of the course.

Reporting cycle 1: September 3rd—November 5th (Report Card: November 14th)
Reporting cycle 2: November 6th—January 24th (Report Card: February 7th)
Reporting cycle 3: January 25th—March 31st (Report Card: April 9th)
Reporting cycle 4: April 1st—June 22nd (Final Report Card pick up: June 25th)

Exam Review Day: June 22nd (9-11 am only)

7. Communication
In addition to class time, students can receive additional assistance from: Subject teachers before/after school, during lunch hour or by appointment.