


Course of Study

1. Course Details

<p>Lawrence Park C.I</p>  <p>TDSB</p>	<p>Teacher(s) : David Gara, Evelyn Mackie, Ushya Shanmugarajah, Kevin Thomas, Limin Zheng</p> <p>Faculty : Mathematics</p> <p>Faculty Office Phone : 416 393-9500 ext 20080</p> <p>Name of ACL : Chi Ho</p> <p>ACL Contact: ChiKin.Ho@tdsb.on.ca</p> <p>Textbooks : Functions 11 Nelson</p>	<p>Date revised : September 2019</p> <p>Course Name : Functions, Grade 11</p> <p>Course Code : MCR 3U1/3/5</p> <p>Prerequisite Course Code : Grade 10 Mathematics, Academic (MPM2D)</p> <p>Credit Value : 1</p> <p>Essential Resource Materials :</p>
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2. Overall Goals

Overall Expectations:

Characteristics of a function.

By the end of this course, students will:

demonstrate an understanding of functions, their representations, and their inverses, and make connections between the algebraic and graphical representations of functions using transformations; determine the zeros and the maximum or minimum of a quadratic function, and solve problems involving quadratic functions, including problems arising from real-world applications; demonstrate an understanding of equivalence as it relates to simplifying polynomial, radical, and rational expressions

Exponential functions

By the end of this course, students will:

evaluate powers with rational exponents, simplify expressions containing exponents, and describe properties of exponential functions represented in a variety of ways; make connections between the numeric, graphical, and algebraic representations of exponential functions; identify and represent exponential functions, and solve problems involving exponential functions, including problems arising from real-world applications.

Discrete Functions

By the end of this course, students will:

demonstrate an understanding of recursive sequences, represent recursive sequences in a variety of ways, and make connections to Pascal's triangle; demonstrate an understanding of the relationships involved in arithmetic and geometric sequences and series, and solve related problems; make connections between sequences, series, and financial applications, and solve problems involving compound interest and ordinary annuities.

Trigonometric Functions

By the end of this course, students will:

determine the values of trigonometric ratios for angles less than 360° ; prove simple trigonometric identities; and solve problems using primary trigonometric ratios, the sine law, and the cosine law; demonstrate an understanding of periodic relationships and sinusoidal functions, and make connections between the numeric, graphical, and algebraic representations of sinusoidal functions; identify and represent sinusoidal functions, and solve problems involving sinusoidal functions, including problems arising from real-world applications

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	<p>The student:</p> <ul style="list-style-type: none"> • 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	<p>The student:</p> <ul style="list-style-type: none"> • 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	<p>The student:</p> <ul style="list-style-type: none"> • 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	<p>The student:</p> <ul style="list-style-type: none"> • 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	<p>The student:</p> <ul style="list-style-type: none"> • 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	<p>The student:</p> <ul style="list-style-type: none"> • 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	Time Line
1		Algebraic Tools for Operating with Functions	16
2		Quadratic Functions and Equations	12
3		Transformations of Functions	13
4		Trigonometry	12
5		Trigonometric functions	16
6		Sequence and Series	11

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
Exam	Chapters 1-6	30%

5. Achievement Chart

Achievement Categories For Course Work	Description	Weighting
Knowledge/Understanding	<ul style="list-style-type: none"> - knowledge of facts and terms - understanding concepts, principles, and theories - understanding of relationships between concepts 	<hr style="width: 20%; margin: auto;"/> 35 %
Thinking	<ul style="list-style-type: none"> - critical thinking skills (analyzing, detecting bias) - creative thinking (problem solving) - inquiry skills (formulating questions; conducting research; analyzing, interpreting and evaluating information; drawing conclusions) 	<hr style="width: 20%; margin: auto;"/> 15 %
Communication	<ul style="list-style-type: none"> - 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) 	<hr style="width: 20%; margin: auto;"/> 15 %
Application	<ul style="list-style-type: none"> - 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 	<hr style="width: 20%; margin: auto;"/> 35 %

ASSESSMENT AND EVALUATION STRATEGIES

ACADEMIC HONESTY: CHEATING AND PLAGIARISM

All students in the Toronto District School Board are expected to submit their own work for evaluations. Cheating and plagiarism will not be condoned. To ensure a full understanding of academic honesty students are expected to:

- seek clarification from teachers about actions that constitute plagiarism
- seek assistance when their research skills need improvement
- understand the penalties for academic dishonesty and plagiarism; and
- ensure that all their work is original and that they cite sources accurately and consistently

Consequences for academic misconduct could result in assignments of a lower grade (including zero), failure in a course and removal from a course and/or suspension from school.

EVALUATION OF LATE OR MISSED ASSIGNMENTS

Students are responsible for their own behaviour and for completing and submitting work for evaluation on time. Students must make themselves aware of each due date and the ultimate deadline which is the last opportunity a student has for submitting an assignment for evaluation.

Teachers support students in the development of their skills and work habits that make them successful learners. Teachers, students and parents will work together and use a number of strategies to ensure that students complete their work and submit it on time.

Students must also understand that there are consequences for incomplete, missing and late assignments. When a number of strategies have been tried, marks may be deducted up to and including the full value of the assignment.

MISSED EVALUATIONS

It is the student's responsibility to make arrangements, ahead of time, for any evaluations that may be missed. If a student misses a test due to an illness or family emergency, then that student must bring a note signed by a parent/guardian with a phone number where they can be reached in the evening. Also, that student will be expected to write a make-up test immediately upon return to school. Missed exams require a medical note that states the student was medically incapable of writing an exam.

PURPOSE OF ASSESSMENT

The term assessment is used to mean a set of actions undertaken by the teacher and student to gather information about student learning.

ASSESSMENT *FOR* LEARNING

Assessment *for* learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go, and how best to get there.

ASSESSMENT *AS* LEARNING

Assessment *as* learning focuses on the explicit fostering of students' capacity over time to be their own best assessors. This type of assessment occurs frequently and in an ongoing manner and helps students reflect on their learning and set individual goals for learning.

ASSESSMENT *OF* LEARNING

Assessment *of* learning is the assessment that becomes public and results in the student's overall grade. This type of assessment occurs at or near the end of a period of learning, and may be used to inform further instruction.

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;