# Course of Study

## 1. Course Details

**Lawrence Park C.I**

**TDSB**

**Teacher :**  Ushya Shanmugarajah

**Faculty :**  Mathematics

**Faculty Office Phone :**  416-393-9500
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**Name of ACL :**  Chi Ho

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**Textbook :**  Foundations for
                College Mathematics 12
                by Pearson

**Date revised :**  September 2019

**Course Name :**  Foundations for
                        College Mathematics 12

**Course Code :**  MAP 4C

**Prerequisite Course Code :**  MBF 3C

**Credit Value : 1**

**Essential Resource Materials :**  A scientific
                                        calculator

## 2. Overall Goals

### Overall Expectations:

**Mathematical Models**
By the end of this course, the students will:
• evaluate powers with rational exponents, simplify algebraic expressions involving exponents, and solve problems involving exponential equations graphically and using common basses;
• describe trends based on the interpretation of graphs, compare graphs using initial conditions and rates of change, and solve problems by modelling relationships graphically and algebraically;
• make connections between formulas and linear, quadratic, and exponential relations, solve problems using formulas arising from real-world application, and describe applications of mathematical modelling in various occupations.

**Personal Finance**
By the end of this course, the students will:
• demonstrate an understanding of annuities, including mortgages, and solve related problems using technology;
• gather, interpret, and compare information about owning or renting accommodation, and solve problems involving the associated costs;
• design, justify, and adjust budgets for individuals and families described in case studies, and describe applications of the mathematics of personal finance.

**Geometry and Trigonometry**
By the end of this course, the students will:
• solve problems involving measurement and geometry and arising from real-world applications;
• explain the significance of optimal dimensions in real-world applications, and determine optimal dimensions of two-dimensional shapes and three-dimensional figures;
• solve problems using primary trigonometric ratios of acute and obtuse angles, the sine law, and the cosine law, including problems arising from real-world applications, describe applications of trigonometry in various occupations.

**Data Management**
By the end of this course, the students will:
• collect, analyse, and summarize two-variable data using a variety of tools and strategies, and interpret and draw conclusions from the data;
• 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:<br><br>• fulfils responsibilities and commitments within the learning environment;<br>• completes and submits class work, homework, and assignments according to agreed-upon timelines;<br>• takes responsibility for and manages own behaviour. |
| **Organization** | The student:<br><br>• devises and follows a plan and process for completing work and tasks;<br>• establishes priorities and manages time to complete tasks and achieve goals;<br>• identifies, gathers, evaluates, and uses information, technology, and resources to complete tasks. |
| **Independent Work** | The student:<br><br>• independently monitors, assesses, and revises plans to complete tasks and meet goals;<br>• uses class time appropriately to complete tasks;<br>• follows instructions with minimal supervision. |
| **Collaboration** | The student:<br><br>• accepts various roles and an equitable share of work in a group;<br>• responds positively to the ideas, opinions, values, and traditions of others;<br>• builds healthy peer-to-peer relationships through personal and media-assisted interactions;<br>• works with others to resolve conflicts and build consensus to achieve group goals;<br>• shares information, resources, expertise and promotes critical thinking to solve problems and make decisions. |
| **Initiative** | The student:<br><br>• looks for and acts on new ideas and opportunities for learning;<br>• demonstrates the capacity for innovation and a willingness to take risks;<br>• demonstrates curiosity and interest in learning;<br>• approaches new tasks with a positive attitude;<br>• recognizes and advocates appropriately for the rights of self and others. |
| **Self-regulation** | The student:<br><br>• sets own individual goals and monitors progress towards achieving them<br>• seeks clarification or assistance when needed<br>• assesses and reflects critically on own strengths, needs, and interests;<br>• 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 | Test | Trigonometry | 12 |
| 2 | Test | Geometry | 10 |
| 3 | Test | Two-Variable Data | 10 |
| 4 | Test | Statistical Literacy | 15 |
| 5 | Test | Graphical Models | 15 |
| 6 | Test | Algebraic Models | 8 |
| 7 | Test | Annuities and Mortgages and Budgets | 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 |
|---|---|---|
| • IRS Presentation<br>• Final Exam | • All seven units described above. | • 30 % |

# 5. Achievement Chart

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