**EAST YORK COLLEGIATE INSTITUTE**

**MAT2L Course Outline 2013-2014**

This Course Outline is based upon the Ministry of Education and Training Ontario Curriculum for the Grade 10 Locally Developed

Compulsory Credit Course for Mathematics as per the document of 2005.

***Board:*** Toronto District School Board

***School:*** East York Collegiate Institute

***Curriculum Leader:*** R.Singh

***Developing Teachers: F. Cesta***

***Date of Revision:*** June 2009

***Course Title:*** Locally Developed Compulsory Credit Course, Mathematics, Grade 10

***Grade:*** 10

***Code:*** MAT2L

***Credit Value:*** 1.0

***Prerequisite:*** A Grade 9 Mathematics credit

***Textbook:*** Math Essentials 10, McGraw-Hill Ryerson, 2005

***Resources:*** Teacher’s Resource for Math Essentials 10

Course Profile for MAT2L (2005) Teacher-made Worksheets

Algebra with Pizzazz & Pre-Algebra with Pizzazz

Manipulatives, Graphing Calculators, Fathom & Geometers’ Sketchpad

**Course Description**

This course emphasizes the extension of mathematical knowledge and skills to prepare students for success in their everyday lives, in the workplace, and in the Grade 11 Mathematics Workplace Preparation course. The course is organized in three strands related to money sense, measurement, and proportional reasoning. In all strands, the focus is on strengthening and extending key foundational mathematical concepts and skills by solving authentic, everyday problems. Students have opportunities to extend their mathematical literacy and problem-solving skills and to continue developing their skills in reading, writing, and oral language through relevant and practical math activities.

**Strands**

Extending Money Sense 31 periods Extending Understanding of Measurement 47 periods Extending Understanding of Proportional Reasoning 25 periods

**Program Planning Considerations**

***Exceptional Students****:* Additional time will be allowed for tests. Additional accommodations will be provided in consultation with the Guidance, Special Education and ESL departments.

***Technology:*** Manipulatives, Graphing Calculators, and Geometer’s Sketchpad will be utilized for hands-on and technology-related applications.

***Career Education:*** Links to related fields will be established throughout the course. ***Co-operative Education****:* These will be provided in association with Guidance Department. ***Mathematics Anxiety****:* Attention will be addressed according to the following:

• Cultural perspectives

• Positive reinforcements

• Variety of assessment techniques

• Group structures

• Consideration for Learning Styles

**Learning Skills**

Assessment of the learning skills will be done on an ongoing basis throughout the academic year by observations of students at work, checklists and interviews. This will include:

Classwork/homework (Work habits, homework and organization) Completed work and seeking assistance (Organization and initiative)

Persistence and independence at tasks (Working independently and initiative) Extension of task (Organization and initiative**)** Achievement of group goals (Team work)

**Assessment Strategies**

A variety of teaching/assessment strategies to address students’ needs will be used during the school year. Formative assessments will be ongoing through out the academic year. These may include:

• Diagnostic assessment

• Formative assessment

• Performance assessment

• Portfolio assessment

• Rubrics

• Checklists

**Term Summative Evaluations (70% Term Work)**

• Tests, quizzes, tasks and other forms of term summative evaluations will occur throughout the academic year at the end of units of work as outlined in the accompanying course outline.

• Students will be provided with reasonable opportunities to master skills relating to the achievement of the curriculum

expectations before assessment and evaluation occurs.

• Major evaluations will be announced at least one week in advance.

• Accommodations will be made for school activities, statutory holidays, religious days, cultural days, sports events and other occurrences that may impact on any scheduled evaluation. It is the student’s responsibility to notify teachers of such absences in advance and to make up missed work.

• Absence on the day of an evaluation must be documented. If a student must miss an evaluation, s/he is expected to:

a) see the teacher before the absence to arrange for an alternative date to make up the evaluation; or

b) in case of illness or unexpected absence, present a note to the teacher, signed by a parent or guardian, immediately upon their return to explain the absence. An alternate evaluation will then be scheduled at a mutually convenient time.

• The East York Late Policy applies to all assignments and evaluations. See your Agenda book.

• Cheating will not be tolerated in any form and will be dealt with appropriately.

**Final Mark Calculation**

Calculation of the Term Mark will be based upon the ***Categories*** of the ***Achievement Chart***. This chart is meant to assist teachers in planning instruction and learning activities for the achievement of the curriculum expectations. It is also used in designing assessment and evaluation tools and in providing feedback to students. Each mathematical topic will contain each category in the chart due to the integrated nature of the discipline in mathematics. Final marks will be calculated as follows:

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| **Term Work:** |  | **70%** | ***Levels of Achievement:*** |
| Knowledge and Understanding: | 35% |  | Level 1: 50 - 59% |
| Application: | 35% |  | Level 2: 60 – 69% |
| Thinking and Inquiry: | 15% |  | Level 3: 70 – 79% |
| Communication: | 15% |  | Level 4: 80 - 100% |

**Final Summative Evaluations: 30%**

**Reporting**

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| **Report #1** | **Report #2** | **June Report** |
| 100% Term Work | 100% Term Work  (Cumulative Sept – Feb) | 70% Term Work + 30% Final Summative Evaluations  (Cumulative Sept to June) |

**Communication**

***Access to extra help and mark records***. Students are encouraged to consult their teachers on a regular basis for extra help and guidance as it relates to improving their academic performance. Students are also expected to discuss strategies for improving their grades with their teachers. Students are expected to view their report cards as an indication of their current achievement and discuss with teachers for clarification.

***Communication with Parents/Guardians***. Comments pertaining to academic achievement and learning skills are placed on the report cards are primarily to provide feedback for parents/guardians as well as students. Parent/guardian nights can be used for one to one discussion. At times it may be necessary to contact parents/guardians by telephone to discuss a student’s performance. Parents/guardians are also encouraged to contact teachers as and when the need arises.

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**MAT2L Daily Course Outline 2012-2013**

**Textbook:** Math Essentials 10, McGraw-Hill Ryerson, 2005

**Strand #1: Extending Money Sense (31 periods)**

Overall Expectations:

• To solve problems drawn from everyday situations involving money, demonstrating skill, and understanding in the use of decimal numbers;

• To communicate information about money sense;

• To use literacy skills (reading, writing, listening, and speaking) to extend their money sense.

**Strand #2: Extending Understanding of Measurement (47 periods)**

Overall Expectations:

• To make estimates and measurements to extend understanding of the metric system;

• To make estimates and measurements to extend understanding of the Imperial system;

• To solve problems involving measurements of circles, rectangles, cylinders, and rectangular prisms, using metric units in applications drawn from everyday life and the workplace;

• To communicate information about measurement concepts;

• To use literacy skills (reading, writing, listening, and speaking) to extend understanding of measurement.

**Strand #3: Extending Understanding of Proportional Reasoning (25 periods)**

Overall Expectations:

• To solve problems drawn from everyday situations, demonstrating skill and understanding in the use of fractions, percentages, ratios, and rates;

• To communicate information about proportional reasoning, drawn from a variety of sources;

• To use literacy skills (reading, writing, listening, and speaking) to extend understanding of proportional reasoning.

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| **Per #** | **TOPIC** | **Section** | **ASSIGNMENT** | **Supplementary Resources** |
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| **UNIT #1: WORKING FOR OUR MONEY (11 periods)** | | | | |
| 1 & 2 | Looking for work – part-time jobs | 1.1 | pp. 1-5 |  |
| 3 & 4 | Skills Practice: Working with large numbers  Rates of Pay | 1.2 | pp. 7-8 pp, 8-11 | Profile Activity 4.1, 4.3 |
| 5 | Take-home pay – percents & commissions | 1.3 | pp. 12-15 |  |
| 6 | You deserve a pay raise – graphs & calculating pay | 1.4 | pp. 16-19 |  |
| 7 | Can you afford it? – graphs & budgeting | 1.5 | pp. 20-23 |  |
| 8 & 9 | Tech Tip: Bar & circle graphs using technology |  | pp. 24-27 | Profile Activity 1.3, 1.5 |
| 10 | Review |  | pp. 28-29 |  |
| 11 | TASK: Saving up |  | p. 30 |  |
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| **UNIT #2: SPENDING MONEY (8 periods)** | | | | |
| 1 & 2 | Tuning your estimating skills – estimating taxes | 2.1 | pp. 31-35 |  |
| 3 | Clothing sale – discount prices | 2.2 | pp. 36-39 |  |
| 4 | Skills Practice: Writing cheques  What do I owe – rounding & calculating percents | 2.3 | pp. 40-41 pp. 42-45 |  |
| 5 | The price of getting fit – calculating total prices | 2.4 | pp. 46-49 |  |
| 6 | Graphs can be misleading | 2.5 | pp. 50-53 |  |
| 7 | Review |  | pp. 54-55 |  |
| 8 | TASK: Party On! |  | p. 56 |  |
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| **UNIT #3: LINEAR MEASUREMENT: METRIC (7 periods)** | | | | |
| 1 | Introduction to metric measure | 3.1 | pp. 57-61 | See Grade 9 Profile Activities |
| 2 | Metric lengths – personal references | 3.2 | pp. 62-65 | Profile Activity 5.1 |
| 3 | Skills Practice: Ratios |  | pp. 66-67 |  |
| 4 | A matter of scale – ratios & measurement | 3.3 | pp. 68-71 |  |
| 5 | From here to there – scale diagrams & measurement | 3.4 | pp. 72-75 |  |
| 6 | Review |  | pp. 76-77 |  |
| 7 | TASK: Hiking the Bruce Trail |  | p. 78 |  |
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| **Per #** | **TOPIC** | **Section** | **ASSIGNMENT** | **Supplementary Resources** |
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| **UNIT #4: LINEAR MEASUREMENT: IMPERIAL (8 periods)** | | | | |
| 1 & 2 | We still use Imperial – equivalent fractions | 4.1 | pp. 79-83 |  |
| 3 | Reading Imperial measures – ordering & rounding | 4.2 | pp. 84-87 |  |
| 4 | Measuring Imperial lengths – converting units | 4.3 | pp. 88-91 |  |
| 5 | What’s the distance? – personal references | 4.4 | pp. 92-95 |  |
| 6 | Floor plans – scale diagrams in Imperial | 4.5 | pp. 96-99 | Profile Activity 5.1 |
| 7 | Review |  | pp. 100-101 |  |
| 8 | TASK: Plan a parking lot |  | p. 102 | Profile Activity 7.2 |
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| **UNIT #5: PROPERTIES OF CIRCLES (9 periods)** | | | | |
| 1 | Measuring circles – parts & lengths | 5.1 | pp. 103-107 |  |
| 2 | How are circumference & diameter related? | 5.2 | pp. 108-111 | Profile Activity 2.2 |
| 3 | More about Pi -circumference | 5.3 | pp. 112-115 |  |
| 4 & 5 | Formulas for circumference – parts of circles | 5.4 | pp. 116-119 |  |
| 6 & 7 | Perimeters of composite shapes | 5.5 | pp. 120-123 |  |
| 8 | Review |  | pp. 124-125 |  |
| 9 | TASK: Bikes, Boards & Blades |  | p. 126 |  |
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| **UNIT #6: CIRCLES & ANGLES (9 periods)** | | | | |
| 1 & 2 | Fractions of circles – equivalent fractions & decimals | 6.1 | pp. 128-131 | Profile Activity 2.1 |
| 3 | Measures of angles | 6.2 | pp. 132-135 |  |
| 4 & 5 | Drawing circle graphs | 6.3 | pp. 136-139 |  |
| 6 | Reading circle graphs | 6.4 | pp. 140-143 |  |
| 7 | Angles & directions | 6.5 | pp. 144-147 |  |
| 8 | Review |  | pp. 148-149 |  |
| 9 | TASK: Sports Survey |  | p. 150 |  |
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| **UNIT #7: GETTING THE RIGHT MIX (16 periods)** | | | | |
| 1 & 2 | Talk ratio & rate  Skills Practice: Equivalent ratio | 7.1 | pp. 151-155 pp. 156-157 |  |
| 3 | Party mixes - ratios | 7.2 | pp. 158-161 |  |
| 4 | The artist in you - proportions | 7.3 | pp. 162-165 |  |
| 5 | Skills Practice: Working with line graphs |  | pp. 166-167 |  |
| 6 | Win, lose or draw – three-term ratios | 7.4 | pp. 168-171 |  |
| 7 | The hard facts on cement mixing - proportions | 7.5 | pp. 172-175 |  |
| 8 | Personal space – unit rates | 7.6 | pp. 176-179 | Profile Activity 3.1 |
| 9 | Take a number – comparing unit rates | 7.7 | pp. 180-183 |  |
| 10 & 11 | Where will it all go? – rates, decimals, percents | 7.8 | pp. 184-187 |  |
| 12 | Drive green and save – ratios, rates & line graphs | 7.9 | pp. 188-191 |  |
| 13 & 14 | Tech tips – Line graphs using technology |  | pp. 192-193 | Profile Activities 1.3, 1.5 |
| 15 | Review |  | pp. 194-195 |  |
| 16 | TASK: Spreading fertilizer on the soccer field |  | p. 196 |  |
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| **UNIT #8: PLANNING A TRIP (14 periods)** | | | | |
| 1 | Planning trip dates – dates & time | 8.1 | pp. 197-201 |  |
| 2 & 3 | Time zones  Skills Practice: Crossing time zones | 8.2 | pp. 202-205 pp. 206-207 |  |
| 4 & 5 | Getting there by plane – schedules & time zones  Skills Practice: Arrival times | 8.3 | pp. 208-211 pp. 212-213 | Profile Activity 4.2 |
| 6 & 7 | Skills Practice: Travel times (12-h clock) Schedules & 24-h clock  Skills Practice: Travel time (24-h clock) | 8.4 | pp. 214-215 pp. 216-218 pp. 219 |  |
| 8 | What’s the temperature? – personal references | 8.5 | pp. 220-223 | Profile Activity 1.4 |
| 9 | Making smart trip decisions – comparing costs | 8.6 | pp. 224-227 |  |
| 10 | Choosing a hotel – misleading graphs | 8.7 | pp. 228-231 |  |
| 11 | How much should I bring? - unit comparisons | 8.8 | pp. 232-235 |  |
| 12 | Making a budget | 8.9 | pp. 236-239 |  |
| 13 | Review |  | pp. 240-241 |  |
| 14 | TASK: Plan a Trip |  | p. 242 |  |
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| **Per #** | **TOPIC** | **Section** | **ASSIGNMENT** | **Supplementary Resources** |
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| **UNIT #9: CIRCLES AND CYLINDERS (10 periods)** | | | | |
| 1 & 2 | Area of a Circle | 9.1 | pp. 243-247 | Profile Activity 5.4 |
| 3 | Area of Sectors | 9.2 | pp. 248-251 |  |
| 4 , 5 &  6 | Volume of a Cylinder  Skills Practice: Volume of Cylinders | 9.3 | pp. 252-255 pp. 256-257 | Profile Activities 6.1, 6.2 |
| 7 & 8 | Working with volume units | 9.4 | pp. 258-261 |  |
| 9 | Review |  | pp. 262-263 |  |
| 10 | TASK: Packing Drums |  | pp. 264 |  |
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| **UNIT #10: GARDENS, PATIOS & POOLS (11 periods)** | | | | |
| 1 & 2 | Measuring Gardens – area of composite figures | 10.1 | pp. 265-269 |  |
| 3 & 4 | Planning gardens & patios – scale diagrams | 10.2 | pp. 270-272 | Profile Activity 5.5 |
| 5 | Putting borders on gardens & patios – perimeter &  cost | 10.3 | pp. 274-277 |  |
| 6 & 7 | Pools and ponds - volumes | 10.4 | pp. 278-281 | Profile Activity 6.3 |
| 8 & 9 | Shopping for materials | 10.5 | pp. 282-285 |  |
| 10 | Review |  | pp. 286-287 |  |
| 11 | TASK: Design your own garden |  | p. 288 | Profile Activity 7.2 |
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| **Cumulative Review (Units #1-10)**  **Final Summative Evaluations (30% of Final Mark)** | | | | |