

**école Secondaire Laurier Macdonald High School**

**7355 Viau, Saint-Leonard  H1S 3C2**

**Tel: 514-374-6000 Fax: 514-374-7220**

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**COURSE STANDARDS AND PROCEDURES**

**COURSE**: Mathematics 226

**CLASS RESOURCES:** *Teacher notes, in-class handouts, Math Help Services, Math 3000, Google Classroom*

**COURSE DESCRIPTION**: *Secondary 2 Math*

**MYP AIMS ADDRESSED BY THE COURSE**: What are the aims/objectives of the course? How do these relate to the MEES competencies?

* Enjoy mathematics, develop curiosity and begin to appreciate its elegance and power
* Develop an understanding of the principles and nature of mathematics
* Communicate clearly and confidently in a variety of contexts
* Develop logical, critical and creative thinking

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| MYP Course Aims | MEES Course Objectives |
| * Knowing and understanding * Investigating patterns * Communicating * Applying mathematics in real-life contexts | **TERM 1**  **Topic 1 – Representation of a situation**   * Types of representations of a situation * Representation of a situation by a graph * Minimum and maximum values * Switching from one type of representation to another   **Topic 2 – Ratios and Proportions**   * Rate and unit rate * Ratios and equivalent rates * Comparison of ratios and rates * Proportion and proportional situations * Ratio of proportionality * Inversely proportional situation * Solving a proportional situation * Percentage of a number * Calculating the one hundred per cent |
| * Knowing and understanding * Investigating patterns * Communicating * Applying mathematics in real-life contexts * Knowing and understanding * Investigating patterns * Communicating * Applying mathematics in real-life contexts | **TERM 2**  **Topic 3 – Algebraic expressions**   * Term/coefficient/like terms * Constructing an algebraic expression * Algebraic expressions - addition/subtraction * Monomials and degree of a monomial * Algebraic expressions - multiplication/division   **Topic 4 – Solving equations**   * Equation * Solving equations * Equivalent equations * Transforming arithmetic equalities * Rules for transforming equations * Solving equations using the balancing equalities method   **Topic 5 – Dilatations and Similar Figures**   * Dilatation * Similar figures * Ratio of similarity   **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **TERM 3**  **Topic 6 – Regular Polygons**   * Classification of polygons * Sum of angles of a polygon * Exterior angles of a convex polygon * Apothem of a regular polygon * Area of a regular polygon and a decomposable polygon   **Topic 7 – Circle**   * Circle * Circumference * Central angle * Arc of a Circle * Disk/Sector   **Topic 8 – Solids**   * Prisms and Pyramids * Polyhedron nets * Height * Apothem of a regular pyramid * Area of bases, lateral area and total area of a prism and pyramid * Right circular cylinder * Lateral or total area of a cylinder * Area of a decomposable solid * Finding unknown measurements   **Topic 9 – Probability**   * Random experiment * Enumerating * Experimental and theoretical probability * Events and types of events * Probability of an event * Complementary events * Compatible and incompatible events * Random experiments with or without replacement * Dependent and independent events * Random experiments with or without order   **Topic 10 – Statistics**   * Surveys * Qualitative, discrete and continuous quantitative variables * Reading bar graphs, broken-line graphs and circle graphs * Distribution table: frequencies and relative frequencies * Samples * Sampling methods: random, systematic * Sources of bias * Constructing graphs: circle graph |

**KEY INSTRUCTIONAL STRATEGIES/APPROACHES TO LEARNING**:

Which ATLs will be addressed in the course and how?

Critical thinking skills

• Analyzing and evaluating issues and ideas

• Practice observing carefully in order to recognize problems

• Gather and organize relevant information to formulate an argument

• Practice visible thinking strategies and techniques

• Utilizing skills and knowledge in multiple contexts

• Apply skills and knowledge in unfamiliar situations

• Transfer current knowledge to learning of new technologies

How will the content be delivered to the students?

• Warm up questions allows students to reflect on previous classes concepts and learning experiences.

• Demonstrate proper mathematical notation within explanation of concepts.

• Formative assessments (pop quizzes, quizzes, homework assignments)

• Group discussions when faced with unfamiliar situations; students discuss appropriate strategies and situations.

• Students combine and apply their mathematical knowledge when solving summative Situational Problems.

**IB MYP LEARNER PROFILE**: Identify which profile attributes will be addressed in the course and how.

Communicators, Inquirers/Thinkers, Caring

**FORMATIVE & SUMMATIVE ASSESSMENT INCLUDING MYP ASSESSMENT:**

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| **Term 1 (20% of School Course Grade)** | | |
| *Competencies targeted* | *Evaluation methods* | *Timeline* |
| Competency 1: Solves a situational problem  (30% of term grade)  Competency 2: Uses mathematical reasoning  (70% of term grade) | May include but not limited to: - Tests  - Quizzes - Assignments/Pop-Quizzes - Situational Problem | Sept 1, 2022-  Nov 3, 2022 |
| *Communication to students and parents* | *Materials required* | |
| • Mozaik Parent Portal  • Progress Report  • First Term Report Card • (communication on an as needed basis  • Google Classroom | • Notebooks, (graph paper or lined), binder for handouts and evaluations • Ruler, pencils, and eraser • Scientific calculator •Geometry set • Internet Access (Outside of the classroom: Home/Library) | |
| *IB MYP Criterion* | *Examples of assessment/feedback both formative and/or summative* | |
| A: Knowing and understanding B: Investigating patterns C: Communicating D: Applying mathematics in real-life contexts | - Tests  - Quizzes - Assignments/Pop-Quizzes - Situational Problem | |

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| **Term 2 (20% of School Course Grade)** | | |
| *Competencies targeted* | *Evaluation methods* | *Timeline* |
| Competency 1: Solves a situational problem  (30% of term grade)  Competency 2: Uses mathematical reasoning  (70% of term grade) | May include but not limited to: - Tests  - Quizzes - Assignments/Pop-Quizzes - Situational Problem | Nov 4, 2022 –  Feb 3, 2023 |
| *Communication to students and parents* | *Materials required* | |
| •Mozaik Parent Portal •Progress Report (April) •Second Term Report Card • (communication on an as needed basis)  •Google Classroom | • Notebooks, (graph paper or lined), binder for handouts and evaluations • Ruler, pencils, and eraser • Scientific calculator •Geometry set • Internet Access (Outside of the classroom: Home/Library) | |
| *IB MYP Criterion* | *Examples of assessment/feedback both formative and/or summative* | |
| A: Knowing and understanding B: Investigating patterns C: Communicating D: Applying mathematics in real-life contexts | - Tests  - Quizzes - Assignments/Pop-Quizzes - Situational Problem | |
| **Term 3 (60% of School Course Grade)** | | | |
| *Competencies targeted.* | *Evaluation methods* | *Timeline* | |

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| Competency 1: Solves a situational problem  (30% of term grade)  Competency 2: Uses mathematical reasoning  (70% of term grade) | May include but not limited to: - Tests  - Quizzes - Assignments/Pop-Quizzes - Situational Problem | Feb 4, 2023 –  June 22,2023 |
| *Communication to students and parents* | *Materials required* | |
| •Mozaik Parent Portal •Progress Report (April) •Second Term Report Card • (communication on an as needed basis)  •Google Classroom | • Notebooks, (graph paper or lined), binder for handouts and evaluations • Ruler, pencils, and eraser • Scientific calculator •Geometry set • Internet Access (Outside of the classroom: Home/Library) | |
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| **Additional Information/Specifications** |
| Click here to enter text.  This course does not have a final exam. The final course grade comes entirely from the school course grade.  This course has a final exam administered by the English Montreal School Board. The final course grade is determined by taking 80% of the school course grade and 20% of the school board exam.  This course has a final exam administered by the *Ministère de l’Éducation et de l’Enseignement Supérieur* (MEES). The final course grade is determined by taking 50% of the school course grade and 50% of the MEES exam. Please note that the final course grade is subject to MEEs moderation. |