

**école Secondaire Laurier Macdonald High School**

**7355 Viau, Saint-Leonard  H1S 3C2**

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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
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| * Knowing and understanding
* Investigating patterns
* Communicating
* Applying mathematics in real-life contexts
* Knowing and understanding
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 | **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

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* 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

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 **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 understandingB: Investigating patternsC: CommunicatingD: 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 understandingB: Investigating patternsC: CommunicatingD: 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* |
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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.[x] 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. |