

**École Secondaire LAURIER MACDONALD High School**

**7355 Viau, Saint-Leonard  H1S 3C2**

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**COURSE STANDARDS AND PROCEDURES**

**COURSE**:

*Mathematics 506 Secondary 5 Math SN*

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

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**COURSE DESCRIPTION**: Scientific math course that is a prerequisite for most commerce and science Cegep programs.

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

| **MYP Course Aims** | **MEES Course Objectives** |
| --- | --- |
| * Knowing and understanding
* Investigating patterns
* Communicating
* Applying mathematics in real-life contexts
 | **TERM 1****Chapter 1 – Functions Arithmetic and Algebra** • Operations on functions and composition of functions• The role of parameters• Inverse function• Piecewise functions• Properties of radicals• Square root functions• Finding the rule and solving a square root function• Properties of absolute values• Absolute value functions • Finding the rule and solving an absolute value function • Rational functions• Finding the rule and solving a rational function |
| **MYP Course Aims** | **MEES Course Objectives** |
| * Knowing and understanding
* Investigating patterns
* Communicating
* Applying mathematics in real-life contexts
 | **TERM 2****Chapter 2 – Systems of Equations and Inequalities** Arithmetic and Algebra • Solving systems of equations • Inequalities in the 1st degree with two variables • System of inequalities • Polygon of constraints• Optimizing function• Optimal solutions • Linear programming and optimal solutions • Solving an optimization problem**Chapter 3 – Exponential and Logarithmic Functions** • Exponential notation • Laws of exponents • Exponential function • Finding the rule of an exponential function • Logarithm • Logarithmic function • Finding the rule of a logarithmic function • Logarithmic equivalences • Solving an exponential equation • Solving a logarithmic equation• Solving an exponential inequality • Solving a logarithmic inequality |
| **MYP Course Aims** | **MEES Course Objectives** |
| * Knowing and understanding
* Investigating patterns
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 | **TERM 3****Chapter 4 – Vectors** • Scalar quantity and vector quantity • Operations on functions and composition of functions• Vector • Vector projection • Relations between vectors • Addition and subtraction of vectors • Multiplication of a vector by a scalar • Properties of operations on vectors • Linear combinations • Scalar product of two vectors • Properties of a scalar product **Chapter 5 – Trigonometric functions** • Radian • Unit circle • Periodic functions • Sinusoidal functions• Finding the rule of a sinusoidal function• Tangent functions • Finding the rule of a tangent function• Arcsine and arccosine functions• Arctangent functions• Solving a trigonometric equation• Solving a trigonometric inequality• Trigonometric identities• Formulas for the sum or difference of two angles**Chapter 6 – Conics**• Conic• Circle and finding its equation• Interior or exterior region of a circle• Ellipse and finding its equation• Interior or exterior region of an ellipse• Hyperbola and finding its equation• Interior or exterior region of a hyperbola• Parabola and finding its equation• Interior or exterior region of a parabola• Intersection points of a line and a conic or a parabola and another conic |

 **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:**

| **Term 1 (20% of School Course Grade)** |
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| *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 | Term 1 ends Nov. 3 |
| *Communication to students and parents* | *Materials required* |
| • Mozaik Parent Portal• Progress Report • First Term Report Card• (communication on an as needed basis) | • Notebook or lined paper, graph paper, binder for handouts and duo-tang for evaluations• Ruler, pencils, and eraser• Scientific calculator• 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- Situational Problem |

| **Term 2 (20 % of School Course Grade)** |
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| *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- Situational Problem-MIDTERM EXAM | Term 2 ends Feb 3 |
| *Communication to students and parents* | *Materials required* |
| •Mozaik Parent Portal•Progress Report (April)•Second Term Report Card• (communication on an as needed basis) | • Notebook or lined paper, graph paper, binder for handouts and duo-tang for evaluations• Ruler, pencils, and eraser• Scientific calculator• 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- Situational Problem |

| **Term 3 (60 % of School Course Grade)** |
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| *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- Situational Problem-FINAL EXAM | Term 3 ends June 23 |
| *Communication to students and parents* | *Materials required* |
| •Mozaik Parent Portal•Progress Report (April)•Second Term Report Card• (communication on an as needed basis) | • Notebook or lined paper, graph paper, binder for handouts and duo-tang for evaluations• Ruler, pencils, and eraser• Scientific calculator• 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- Situational Problem |

| **Additional Information/Specifications** |
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| 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 70% 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. |