

**École Secondaire LAURIER MACDONALD High School**

**7355 Viau, Saint-Leonard  H1S 3C2**

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**COURSE STANDARDS AND PROCEDURES**

**COURSE**:

Differential Calculus, 566574

**CLASS RESOURCES:**

Teacher notes, Khan Academy

**COURSE DESCRIPTION**:

This course is aimed to cover the topics of precalculus and differential calculus, including but not limited to functions, limits and continuity, differentiation and the use of derivatives to analyze functions.

Students should have a fundamental understanding of algebra and the properties of functions in order to master the course. Although no textbook is used, ample materials will be provided through google classroom for the students’ benefit.  
  
**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 | Term 1:  -Factoring  Methods of factorization  Polynomial factorization of a degree higher than 3  -Properties of functions  Rational function  Radical function  Composite and inverse functions |
| - Knowing and Understanding  - Investigating patterns  - Communicating  - Applying mathematics in real life | Term 2:  -Limits and continuity  Estimating limits  One sided limits  Limits of composite functions  Limits by factoring  Squeeze theorem  Continuity  Infinite limits |
| - Knowing and Understanding  - Investigating patterns  - Communicating  - Applying mathematics in real life | Term 3:  -Differentiation  Basic derivative rules  Power rule  Differentiating polynomials  Differentiating multiple types of functions  Differentiating products and quotients  Differentiating composite, implicit and inverse functions |

**FUNDAMENTAL IB CONCEPTS**: Identify the MYP fundamental concepts (communication, intercultural awareness and holistic learning) specific to the subject and explain how they will be incorporated.

Concept include Form, Relationships, and Logic by providing concrete examples.

**KEY INSTRUCTIONAL STRATEGIES/APPROACHES TO LEARNING**: Which ATLs will be addressed in the course and how? How will the content be delivered to the students?

Thinking skills will be used by analyzing and evaluating different learning situations and problems. Students will be expected to practice thinking strategies and techniques based on knowledge provided in class.

Transfer skills will be used by applying the knowledge and skills they’ve accumulated through high school mathematics to new learning situations.

Content will be delivered to students via printed notes, which will also be posted online. Homework assignments (including Khan academy) will allow students to reflect on their knowledge.

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

Attributes: Communicators, Inquirers and Thinkers

Students will further develop these attributes in the use of group work. Students will be asked to complete work on their own and with their classmates before getting answers from teacher. Teaching will be differentiated for the variety of learners.

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

| **Term 1 (20% of School Course Grade)** | | |
| --- | --- | --- |
| *Competencies targeted* | *Evaluation methods* | *Timeline* |
| Competency 1: Solves a situational problem  Competency 2: Uses mathematical reasoning | May include but not limited to: - Tests  Quizzes  Homework assignments | September 1st - November 3rd, 2022 |
| *Communication to students and parents* | *Materials required* | |
| Mozaik Parent Portal and Google Classroom  Progress Report  Report Card  Email communication (on an as needed  basis) | Notebook or lined paper  Binder  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 understanding*  *B: Investigating patterns*  *C: Communicating*  *D: Applying mathematics in real-life contexts* | Tests  Quizzes  Homework assignments | |

| **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 | May include but not limited to: - Tests  Quizzes  Homework assignments | November 4th - February 3rd, 2023 |
| *Communication to students and parents* | *Materials required* | |
| Mozaik Parent Portal and Google Classroom  Report Card  Email communication (on an as needed  basis) | Notebook or lined paper  Binder  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 understanding*  *B: Investigating patterns*  *C: Communicating*  *D: Applying mathematics in real-life contexts* | Tests  Quizzes  Homework assignments | |

| **Term 3 (60% of School Course Grade )** | | |
| --- | --- | --- |
| *Competencies targeted* | *Evaluation methods* | *Timeline* |
| Competency 1: Solves a situational problem  Competency 2: Uses mathematical reasoning | May include but not limited to: - Tests  Quizzes  Homework assignments | February 4th - June 22nd, 2023 |
| *Communication to students and parents* | *Materials required* | |
| Mozaik Parent Portal and Google Classroom  Report Card  Email communication (on an as needed  basis) | Notebook or lined paper  Binder  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 understanding*  *B: Investigating patterns*  *C: Communicating*  *D: Applying mathematics in real-life contexts* | Tests  Quizzes  Homework assignments | |

| **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 30% 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. |