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## *MYP Course Description*

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### **MATHEMATICS**

The MYP Mathematics aims to equip all students with powerful universal mathematical language, analytical reasoning and problem solving skills that contribute to the development of logical, abstract and critical thinking. The following is a list of some of the aims of MYP Mathematics. Students are encouraged and enabled to:

- Develop an understanding of the principles and nature of mathematics
- Develop logical, critical and creative thinking
- Apply and transfer skills to a wide range of real life situations, other areas of knowledge and future developments
- Develop confidence, perseverance, and independence in mathematical thinking and problem solving
- Appreciate the contribution of mathematics to other areas of knowledge
- Develop the ability to reflect critically upon their own work and the work of others.

#### **Assessment:**

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##### **Criterion A: Knowing and Understanding**

Students are assessed on their ability to use their knowledge and to demonstrate their understanding of the concepts and skills learned in class.

##### **Criterion B: Investigating Patterns**

Students are assessed on their ability to select and apply appropriate inquiry and mathematical problem solving techniques. Through the use of investigations, teachers challenge students to experience mathematical discovery, recognize patterns and structures, describe these as relationships or general rules, and explain their reasoning using mathematical justifications and proofs.

##### **Criterion C: Communicating**

Students are assessed on their ability to use appropriate mathematical language and use different forms of mathematical representation (i.e. diagrams, tables, charts etc.). This encourages students to use the language of mathematics and its different forms of representation to communicate their findings and reasoning effectively, both orally and in writing.

##### **Criterion D: Applying Mathematics in Real Life Contexts**

Students are assessed on their ability to reflect upon their processes and evaluate the significance of their findings in connection to real-life contexts. Reflection allows students to become aware of their strengths and the challenges they face as learners.

**Textbook:** *Math Makes Sense 9* (Pearson)

**Workbook:** *Theory and Problems for Mathematics 9* (Mickelson)

\* a \$20 deposit is required for the Workbook. Students can either write directly into the textbook (and forfeit the \$20) or keep it in its original condition (in which case they will be refunded at the end of the course) \*

**Equipment Needed:**

- pencil
- eraser
- ruler
- scientific calculator

**Course Content:**

- Square Roots, Powers, and Exponent Laws (Chapter 1)
- Finance (Chapter 2)
- Rational Numbers (Chapter 3)
- Linear Relations (Chapter 4)
- Polynomials (Chapter 5)
- Linear Equations (Chapter 6)
- Reasoning (Chapter 7)
- Probability and Statistics (Chapter 8)
- Similarity and Scale Factors (Chapter 9)
- Problem Solving (throughout the entire course)