Course Outline

MYP Mathematics: Math 6

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I. COURSE DESCRIPTION

Math 6 focuses on the following mathematical concepts: Ratios and proportional reasoning, fraction operations, decimal operations and percents, statistics, geometry, expressions/equations, and integers.

This course incorporates the three fundamental concepts of the International Baccalaureate Middle Years Program: holistic learning, intercultural awareness and communication. Holistic learning is encouraged in many ways like integrating different subject areas with math and helping students become aware of how math is used in real-life, meaningful situations. It gives students an international perspective by engaging in activities using real world statistics and information. Communication is fundamental to learning because it allows students to express what they have learned and understand. This includes communicating with written words, algebra equations, graphs and charts.

Students will begin to embody the IB Learner Profile as they display the following qualities: An **inquiring**/questioning approach to your learning ~ actions that suggest you are **knowledgeable** and reasoned in your **thinking** ~ an ability to use critical thinking skills as you do math ~ an ability to **communicate** your ideas and receive the ideas of others ~ an honest, fair, and **principled** approach to your behavior and learning ~ an **open - mindedness** toward other's attitudes and beliefs ~ an empathy, compassion, and **caring** for others ~ a willingness to leave your comfort zone and become **risk- takers** ~ a **balance** in all aspects of your life ~an ability to **reflect** on life and learning.

II. AIMS AND OBJECTIVES

The aims of MYP mathematics are to encourage and enable students to:

- 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
- develop confidence, perseverance, and independence in mathematical thinking and problem-solving
- develop powers of generalization and abstraction
- apply and transfer skills to a wide range of real-life situations, other areas of knowledge and future developments
- appreciate how developments in technology and mathematics have influenced each other
- appreciate the moral, social and ethical implications arising from the work of mathematicians and the applications of mathematics
- appreciate the international dimension in mathematics through an awareness of the universality of mathematics and its multicultural and historical perspectives
- appreciate the contribution of mathematics to other areas of knowledge

- develop the knowledge, skills and attitudes necessary to pursue further studies in mathematics
- develop the ability to reflect critically upon their own work and the work of others.

The MYP objectives are available on the website. The course is based on the Iowa Core and district curriculum.

III. ROLE OF GLOBAL CONTEXTS

For every unit, there will be a unit question and a global context: *Identities and Relationships, Orientation in Space and Time, Personal and Cultural Expression, Scientific and Technical Innovation, Globalization and Sustainability, and Fairness and Development* that will provide a framework and give our classroom a context for learning. The Global Contexts are the fuel that fires our intellectual pursuit. They help students make connections to their own life and to their other subject areas.

IV. TEXTS AND RESOURCES

The primary resources for this class are the Problem Based Instructional Tasks (PBIT) that have been created by the Math Leadership Team to match the Iowa Core. The Holt textbook will also be used.

V. METHODOLOGY

A variety of teaching methods will be used with the students including group work, inquiry, direct teaching, and hands-on learning.

VI. METHODS OF ASSESSMENT

Formative Assessments include class work, group work, teacher observation, and quizzes.

Summative Assessments include tests and projects.

For IB assessment, student work is evaluated on the following IB assessment criteria:

Criterion A	Knowing & Understanding	max 8
Criterion B	Investigating Patterns	max 8
Criterion C	Communicating	max 8
Criterion D	Applying Math in Real-Life Contexts	max 8

VII. GRADING POLICY, INCLUDING THE USE OF MYP CRITERIA

All summative tasks will be assessed using MYP rubrics, and students will receive a copy of the rubrics to take home. Further, teachers will post each student's level of achievement on Infinite Campus.