



# MYP Mathematics 1 Syllabus

## **Unit 1 Numbers and number systems: Civilizations and human interactions**

- 1.1: Representing numbers
- 1.2: Place value, expanded form and scientific notation
- 1.3: Number systems with different bases
- 1.4: Powers, indices and roots
- 1.5: Factors, multiples and prime numbers
- 1.6: Greatest common factor and lowest common multiple
- 1.7: Factors and divisibility
- 1.8: Order of operations
- 1.9: Number systems from different civilizations

## **Unit 2 Percentages: Inequality and difference**

- 2.1: Different forms of percentages
- 2.2: Converting fractions and percentages
- 2.3: Converting decimals and percentages
- 2.4: Applications of percentages
- 2.5: Percentage increase and decrease

## **Unit 3 Algebraic expressions and equations: Patterns in nature**

- 3.1: Patterns in different forms - diagrams, sequences, tables and words
- 3.2: Simplifying algebraic expressions
- 3.3: Generalizing mathematical patterns
- 3.4: Patterns as functions
- 3.5: Algebraic equations
- 3.6: Patterns in nature

## **Unit 4 Geometric constructions: Artistry and creativity**

- 4.1: Rays, line segments and lines
- 4.2: Classifying, measuring and constructing angles
- 4.3: Angles formed by intersecting lines and parallel lines with a transversal
- 4.4: Classification of triangles
- 4.5: Interior and exterior angles of triangles

## **Unit 5 Fractions: Human connections**

- 5.1: Fractions in different forms
- 5.2: Comparing fractions
- 5.3: Multiplying and dividing fractions
- 5.4: Adding and subtracting fractions
- 5.5: Multiple operations with fractions

## **Unit 6 Data management: Trends in communities**

- 6.1: Types of data
- 6.2: Representation of data
- 6.3: Types of graphs
- 6.4: Comparison of data and showing trends
- 6.5: Misleading graphs

## **Unit 7 Perimeter, area and volume: Environmental impacts**

- 7.1: Venn diagrams
- 7.2: Perimeter and area of triangles, rectangles and compound shapes
- 7.3: 2D shapes and the volume of corresponding prisms
- 7.4: Volume of rectangular and triangular prisms
- 7.5: Surface area of rectangular and triangular prisms
- 7.6: Relationships between surface area and volume of prisms



# MYP Mathematics 2 Syllabus

## **Unit 1 Ratio and proportion: Competition and cooperation**

- 1.1: Simplifying ratios
- 1.2: Equivalent ratios
- 1.3: Other ways to represent ratios
- 1.4: Solving proportions
- 1.5: Proportional reasoning

## **Unit 2 Probability: Games and play**

- 2.1: Events and outcomes
- 2.2: Representing the sample space
- 2.3: Defining and representing probability
- 2.4: Calculating probability
- 2.5: Complementary events
- 2.6: Theoretical versus experimental probability
- 2.7: Simulations

## **Unit 3 Integers: Human explorations**

- 3.1: What is an integer?
- 3.2: Absolute value
- 3.3: The coordinate grid
- 3.4: Multiplication and division
- 3.5: Addition and subtraction
- 3.6: Multiple operations

## **Unit 4 Algebra: Puzzles and tricks**

- 4.1: Classifying algebraic expressions
- 4.2: Simplifying expressions
- 4.3: Writing expressions
- 4.4: Solving equations
- 4.5: Writing equations
- 4.6: Application of equations
- 4.7: Representing inequalities
- 4.8: Solving inequalities

## **Unit 5 Geometry: Human and natural landscapes**

- 5.1: Area of trapezium
- 5.2: Area of regular polygons
- 5.3: Circumference and area of circles
- 5.4: Surface area of regular prisms
- 5.5: Volume of rectangular prisms
- 5.6: Volume of other prisms

## **Unit 6 Rates: Interconnectedness of human-made systems**

- 6.1: What is a rate?
- 6.2: Converting measurements
- 6.3: Converting currencies
- 6.4: Unit rates and unit prices
- 6.5: Problem solving with rates
- 6.6: Rate of change

## **Unit 7 Univariate data: Accessing equal opportunities**

- 7.1: Stem-and-leaf plots
- 7.2: Measures of central tendency (mean, median, mode)
- 7.3: The effect of outliers
- 7.4: Measures of dispersion (range and quartiles)
- 7.5: Box and whisker plots





# MYP Mathematics 3 Syllabus

## **1 Number: Discoveries and developments**

- 1.1: Introducing number
- 1.2: Rational and irrational numbers
- 1.3: Exponents
- 1.4: Scientific notation

## **2 Linear relationships: Impact of human decision-making**

- 2.1: Introducing linear relationships
- 2.2: Linear relationships
- 2.3: Algebraic representations of linear relationships

## **3 Linear systems: Social entrepreneurship**

- 3.1: Introducing linear systems
- 3.2: Solving linear equations
- 3.3: Solving systems of linear equations
- 3.4: Problem solving with linear systems

## **4 3-d shapes: Products, processes and solutions**

- 4.1: Introducing 3-d shapes
- 4.2: Cylinders
- 4.3: Cones
- 4.4: Pyramids
- 4.5: Spheres

## **5 Geometric transformations: Expressing beliefs and values**

- 5.1: Introducing geometric transformations
- 5.2: Tessellations
- 5.3: Congruence transformations
- 5.4: Similarity transformations

## **6 Triangles: Principles, processes and solutions**

- 6.1: Introducing triangles
- 6.2: Theorems and proof
- 6.3: Relationships between triangles
- 6.4: Trigonometric ratios

## **7 Bivariate data: What it means to be human**

- 7.1: Introducing bivariate data
- 7.2: Representing bivariate data
- 7.3: Analyzing bivariate data
- 7.4: Correlation and causation





# MYP Mathematics 4&5 Syllabus

## Problem-solving

1: Form

1.1: Mathematically speaking \* The language of Mathematics

2: Relationships

2.1: Are we related? \* Functional relationships

3: Logic

3.1: But can you prove it? \* Using logic in coordinate geometry

4: Representation

4.1: A whole range of things \* Working with sets of data

4.2: Getting your ducks in a row \* Working with grouped data

4.3: How did that happen? \* Scatter graphs and linear regression

4.4: What are the chances? \* Simple probability

5: Simplification

5.1: Are you saying I'm irrational \* Rational irrational numbers

6: Quantity

6.1: Can I exchange this please? \* Currency conversion

6.2: City skylines \* Histograms

7: Measurement

7.1: Yes, I'm absolutely positive \* Absolute value

7.2: How do they measure up? \* Converting units and reasoning quantitatively

7.3: Going around and around \* Circle segments and sectors

7.4: Which triangle is just right for you? \* Right-angled triangles and trigonometric ratios

8: Patterns

8.1: What comes next? \* Finding patterns in sequences

8.2: Back to the beginning \* Using patterns to work backwards

9: Space

9.1: Spacious interiors \* Volumes of 3D shapes

9.2: A parable about parabolas \* Quadratic functions in 2D space

10: Change

10.1: A frog into a prince \* Transforming functions

10.2: A thin line divides us \* Algebraic fractions

10.3: Getting more done in less time \* Direct and indirect proportion

11: Equivalence

11.1: A model of equality \* Equivalence transformations

11.2: More than one way to solve a problem \* Equivalent forms

11.3: Seems rational to me \* Equivalent methods

12: Generalization

12.1: Seeing the forest and the trees \* Making generalizations from a given pattern

12.2: Growing predictably \* Arithmetic and geometric sequences

12.3: So, what do you think? \* Drawing reasonable conclusions

13: Justification

13.1: Well-rounded ideas \* Using circle theorems

13.2: It strikes a chord \* Intersecting chords

14: Models

14.1: The power of exponentials \* Exponential functions

14.2: Like gentle ocean waves \* Sine and cosine functions

14.3: Decisions, decisions \* Inequalities

15: Systems

15.1: More than likely, less than certain \* Probability systems

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