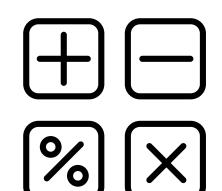
Scotch College



MATHEMATICS

NUMBER MEASUREMENT Y6 & ALGEBRA & GEOMETRTY • Focuses on whole numbers, fractions, Covers area, perimeter, volume, and • ENRICHMENT properties of 2D and 3D shapes. decimals, & percentages. • Students learn about the order of · Basic concepts of angles and OURSE MAINSTREAM operations, introductory algebra, & pattern transformations are introduced. recognition. SUPPORT **NUMBER MEASUREMENT Y7** • ACCELERATED & ALGEBRA & GEOMETRTY Ш • Includes integers, ratios, fractions, decimals, Introduces more complex area and volume • ENRICHMENT calculations, properties of geometric figures, percentages, and introductory algebraic transformations, and angle relationships. expressions and equations. \Box MAINSTREAM SUPPORT **NUMBER MEASUREMENT** AN **Y8** ACCELERATED & ALGEBRA & GEOMETRTY Deepens understanding of integers, • Focus on the properties of shapes, ENRICHMENT fractions, and percentages. Algebraic transformations, and calculations for areas Z U of complex shapes and volumes of solids. expressions, linear equations, and patterns MAINSTREAM are explored. **SUPPORT Y9 NUMBER MEASUREMENT** • 9 THEORY & ALGEBRA & GEOMETRTY Шĺ Students study indices, scientific notation, Covers trigonometry, Pythagoras' theorem, S • 9A OUR direct and inverse proportion, and expand on and complex area and volume calculations for algebraic manipulation and solving equations. various solids. • 9B 里 **NUMBER MEASUREMENT** Y10 • 10 THEORY & ALGEBRA & GEOMETRTY • Focuses on advanced algebra, including • Trigonometry applications are expanded to • 10A include angles of elevation and depression. quadratic equations, factorization, 召 simultaneous equations and applications of DIFFE • 10 linear and non-linear functions. • 10A Extends trigonometry to non-right triangles using the sine and cosine rules and • 10A Extends to advanced algebraic • 10B includes properties of circles, such as techniques and logarithms. Students explore tangents, chords, and theorems related to more complex functions, such as polynomials, cyclic quadrilaterals. reciprocal and exponential functions...

11 & 12

YEAR

GENERAL

MATHEMATICS **ESSENTIALS**

 Designed for students seeking practical math skills for vocational fields and daily life, emphasising decision-making and problem-solving in realworld contexts.

SKILLS DEVELOPED

- Real-world problemsolving & practical decision-making.
- Financial literacy, with an emphasis on managing personal and professional finances.
- Interpreting and presenting data for informed decisionmaking.
- Planning and organising using mathematical tools in everyday and vocational contexts

ATAR

MATHEMATICS APPLICATIONS

- Designed for students who want practical math skills for real-world use, like finance, statistics, and planning.
- Ideal for those pursuing tertiary studies in fields with minimal advanced math.

SKILLS DEVELOPED

- Mathematical reasoning and problem-solving in real-world contexts.
- Data analysis, interpretation, and statistical reasoning.
- Financial literacy and understanding of
- personal finance.
 Decision-making skills applicable to planning, scheduling, and optimisation

MATHEMATICS **METHODS**

- Designed for students
 aiming for tertiary studies
 in fields requiring strong
 math skills, like engineering,
 economics, physical
 sciences, and health
 sciences.
- Focuses on calculus, probability, and algebraic techniques

SKILLS DEVELOPED

- Analytical thinking and mathematical reasoning.
- Solving complex problems using algebraic, graphical, and numerical techniques.
- Calculus applications for real-world modelling and problem-solving.
- Advanced probability concepts and data interpretation.

SPECIALIST

MATHEMATICS

- Designed for students interested in advanced math, aiming for careers in mathematics, engineering, and physical sciences.
- Taken with Mathematics
 Methods, it covers complex
 numbers, vectors, and
 advanced calculus

SKILLS DEVELOPED

- Develop rigorous mathematical arguments and proofs, enhancing their logical reasoning and problem-solving skills
- Advanced calculus and vector analysis for use in complex problem-solving.
- Understanding of complex numbers and their applications.
- Applying mathematical concepts in threedimensional geometry, physics, and engineering contexts.

STATISTICS & PROBABILITY

 Introduction to data collection and representation through tables, graphs, and simple probability.

STATISTICS & PROBABILITY

 Introduces basic probability concepts, including sample spaces and probability events, along with data displays and analysis.

STATISTICS & PROBABILITY

 More advanced probability concepts are introduced, including Venn diagrams.
 Emphasis on analysing data distributions and comparing data sets.

STATISTICS & PROBABILITY

 Understanding probability in experimental and theoretical contexts, including tree and Venn diagrams. Students delve into statistical data analysis and interpretation, including mean, median, mode, range, and box plots.

STATISTICS & PROBABILITY

 Introduction to bivariate data, interpreting scatter plots, linear regression and correlation. More complex probability problems including independent and dependent events and conditional probability.

IB DIPLOMA [2Y]

APPLICATIONS & INTEPRETATIONS [SL]

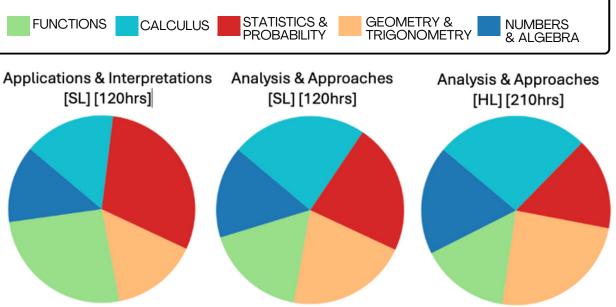
Designed for students interested in applying • Des

interested in applying mathematics to real-world contexts, focusing on statistics, modelling, and the use of technology.

 Ideal for those pursuing studies in social sciences, natural sciences, biology, psychology, economics, business or arts.

ANALYSIS & APPROACHES [SL/HL]

- Designed for students pursuing mathematics, engineering, physical sciences, or economics in higher education,
- This course builds analytical skills with a strong focus on calculus, mathematical reasoning, and problem-solving.



All the IB Mathematics courses cover 5 strands.

GRAPHIC 1: Distribution of time focussed on each strand in each course.