



MATHS ANALYSIS & APPROACHES

INTERNATIONAL
BACCALAUREATE

WHY SHOULD I STUDY IB MATHS ANALYSIS & APPROACHES?

Students who choose Mathematics: analysis and approaches at Standard Level or Higher Level should be comfortable in the manipulation of algebraic expressions and enjoy the recognition of patterns and understand the mathematical generalisation of these patterns. Students who wish to take Mathematics: analysis and approaches at higher level will have strong algebraic skills and the ability to understand simple proof. They will be students who enjoy spending time with problems and get pleasure and satisfaction from solving challenging problems.

WHAT WILL I LEARN ABOUT?

This course recognises the need for analytical expertise in a world where innovation is increasingly dependent on a deep understanding of mathematics. This course includes topics that are both traditionally part of a pre-university mathematics course (for example, functions, trigonometry, calculus) as well as topics that are amenable to investigation, conjecture and proof, for instance the study of sequences and series at both SL and HL, and proof by induction at HL.

HOW WILL I BE ASSESSED?

External assessment. **Paper 1** - Compulsory short-response and long response questions without technology; **Paper 2** - Compulsory short-response and long response questions with technology. **Paper 3** (Higher Level only) - Two compulsory extended response problem-solving questions; Mathematical exploration - This is a piece of written work that involves investigating an area of mathematics.

WHAT SKILLS WILL I DEVELOP?

The course allows the use of technology, as fluency in relevant mathematical software and hand-held technology is important regardless of choice of course. However, Mathematics: analysis and approaches has a strong emphasis on the ability to construct, communicate and justify correct mathematical arguments.

WHERE COULD THIS SUBJECT TAKE ME IN THE FUTURE?

As well as more traditional university courses, Mathematics: analysis and approaches may be a beneficial choice for students considering careers in, for example, economics, science, planning, healthcare systems or coding, tourism industries, the technology industry, social informatics, or urban planning.

