



Years 12 and 13 DP Mathematics Course Overview Analysis and Approaches SL 2026-2027

Welcome to Year 12 and 13 DP Mathematics: Analysis and Approaches SL. To meet the different needs, interests, and abilities of individual students, CIS offers four different courses in mathematics. These courses are designed for different types of students: those who wish to study mathematics in-depth as a subject in its own right or those who wish to pursue their interests in areas related to the application of mathematics. Each course is designed to meet the needs of a particular group of students. Therefore, great care should be taken to select the course that is most appropriate for each individual student. The courses on offer are Mathematics: analysis and approaches and Mathematics: applications and interpretation. Both are available at Standard Level and Higher Level, giving four course options in total.

The Years 12 and 13 Diploma Programme Aims

The aims of all DP mathematics courses are to enable students to:

- develop a curiosity and enjoyment of mathematics, and appreciate its elegance and power
- develop an understanding of the concepts, principles, and nature of mathematics
- communicate mathematics clearly, concisely, and confidently in a variety of contexts
- develop logical and creative thinking, and patience and persistence in problem-solving, to instill confidence in using mathematics
- take action to apply and transfer skills to alternative situations, to other areas of knowledge, and to future developments in their local and global communities
- appreciate how developments in technology and mathematics influence each other
- develop the ability to reflect critically upon their own work and the work of others
- independently and collaboratively extend their understanding of mathematics

Mathematics: analysis and approaches

This course recognises the need for analytical expertise in a world where innovation increasingly depends on a deep understanding of mathematics. This course includes topics that are traditionally part of a pre-university mathematics course (for example, functions, trigonometry, calculus) and topics that are amenable to investigation, conjecture, and proof. The course allows the use of technology, as fluency in relevant mathematical software and hand-held technology is important regardless of the choice of course.

Curriculum Outline

Students will study topics from each of the following areas of mathematics:

- number and algebra
- functions
- geometry and trigonometry
- probability and statistics
- calculus

Learning Skills

The following set of skills is designed to empower students to succeed in meeting the learning objectives of this subject and prepare them for future success in their academic programme:

- thinking skills
- social skills
- communication skills
- self-management skills
- research skills

Assessment

Progress will be monitored by end-of-unit assessments throughout the course.

The IB assesses the DP courses through a combination of an external assessment and an internally assessed mathematical exploration. The assessment components for SL are listed below:

Assessment Outline SL

Assessment component	Weighting
External assessment (3 hours)	80%
Paper 1 (90 minutes) No technology allowed. (80 marks) <i>Section A</i> Compulsory short-response questions based on the syllabus. <i>Section B</i> Compulsory extended-response questions based on the syllabus.	40%
Paper 2 (90 minutes) Technology required. (80 marks) <i>Section A</i> Compulsory short-response questions based on the syllabus. <i>Section B</i> Compulsory extended-response questions based on the syllabus	40%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. Mathematical exploration Internal assessment in mathematics is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks)	20%

Academic Integrity

This course follows Chinese International School's Academic Integrity Policy, which can be found at this link and in the Student and Parent Handbook.

Academic Integrity Policy

Students are expected to produce individual, original work with regard to homework (unless instructed otherwise by the teacher). Furthermore, detailed and logical work is required along with their answers. This allows students to demonstrate their thinking process and the concepts used to arrive at their solutions. Should students need help with any homework set,

it is important that they tell their teacher. Copying solutions from others or solution manuals is considered an act of academic dishonesty and will be handled in accordance with the Academic Integrity Policy at CIS.

Calculator requirements

CIS requires parents to provide their child in any IBDP mathematics course with a TI-84 Plus CE Graphic Display Calculator. A TI-84 Plus CE can be purchased from Goldwise Development Ltd through this [link](#). Furthermore, students must bring their graphic display calculators to every lesson. Parents are advised to contact their child's teacher if they have any further questions regarding the use of graphic display calculators in class.

Teachers

Ms Andrea Adair (Year 13): aadair@cis.edu.hk

Ms Stacy Motta (Year 12 and 13): smotta@cis.edu.hk

Mr Adedeji Odunlami (Year 12): aodunlami@cis.edu.hk