

IBDP – Diploma Programme Internacional Baccalaureate 2020 Components

Course Programme: Mathematics Application and Interpretation High Level

Mathematics is an important subject that is present in a wide range of disciplines as both a language and a tool. It empowers us with the ability to explore the universe and the world around us by means of its applications, which include, analysing trends; making predictions; quantifying risks; exploring relationships; just to mention a few.

These two facets of mathematics are often deeply connected and by developing them considering such connections, students will be able to reason and apply its concepts in the real world, keeping an open and yet diverse perspective in order to solve real life problems and to analyse a variety of phenomena.

This course recognises the increasing role that mathematics and technology play in a diverse range of fields and for that reason it makes extensive use of technology to allow students to explore, construct and apply mathematical models in the complex and rich repertoire of phenomena and situations.

This course is developed in five main syllabus components:

Topic 1 – Number and algebra

Topic 2 – Functions

Topic 3 – Geometry and trigonometry

Topic 4 – Statistics and probability

Topic 5 – Calculus

Assessments

External Assessment:

- Paper 1: **2 hours** with compulsory **short-response** questions; GDC (graphic display calculator) is required. A total of 110 marks worth and representing 30% of the final mark.
- Paper 2: **2 hours** with compulsory **extended-response** questions; GDC (graphic display calculator) is required. A total of 110 marks worth and representing 30% of the final mark.
- Paper 3: **1 hour** with a variety of compulsory questions with different lengths which often require extended responses involving sustained reasoning. GDC (graphic display calculator) is required. A total of 55 marks worth and representing 20% of the final mark.

Internal Assessment:

- A **mathematical exploration** – a report written by the student based on a topic chosen by him or her. The emphasis is on mathematical communication (including formulae, diagrams, graphs, tables and so on), with his or her own focus, with the teacher providing feedback. The exploration is intended to provide students with opportunities to increase their



understanding of mathematical concepts and processes, and to develop a wider appreciation of mathematics. It represents 20% of the final mark.

* * *