



Dear Parents / Guardians,

Selecting the proper math class is important for success in the Diploma Programme and we would like to explain the options available. The DP requires students to choose three courses at a standard level, and three courses at a higher level. In math, there are two options for standard level. All three options are two year courses. Below are course descriptions for the three math options in the Diploma Programme. We have discussed the appropriate placement for your students in their current 10<sup>th</sup> grade math classes, but we would also like for you to continue the discussion with your students at home before they make their selections.

### **IB DP Mathematics: Applications and Interpretation SL**

**Prerequisite:** Algebra I, Geometry, and Algebra II

Applications and interpretation is for students who are interested in developing their mathematics for describing our world and solving practical problems. They will also be interested in harnessing the power of technology alongside exploring mathematical models. Students who take this course will be those who enjoy mathematics best when seen in a practical context. This course recognizes the increasing role that mathematics and technology play in a diverse range of fields in a data rich world. As such, it emphasizes the meaning of mathematics in context by focusing on topics that are often used as applications or in mathematical modelling. To give this understanding a firm base, this course also includes topics that are traditionally part of a pre-university mathematics course such as calculus and statistics. The course makes extensive use of technology to allow students to explore and construct mathematical models. Mathematics: applications and interpretation will develop mathematical thinking, often in the context of a practical problem and using technology to justify conjectures.

### **IB DP Mathematics: Analysis and Approaches SL**

**Prerequisite:** Algebra I, Geometry, and Algebra II

Analysis and Approaches SL is a two-year math course geared towards students preparing for future studies in subjects such as chemistry, economics, psychology and business administration. This course recognizes the need for analytical expertise in a world where innovation is increasingly dependent on a deep understanding of mathematics. It is for students who enjoy developing their mathematics to become fluent in the construction of mathematical arguments and develop strong skills in mathematical thinking. Students taking IB DP Mathematics: Analysis and Approaches SL will explore real and abstract applications of these ideas, with and without technology. It is geared towards those who enjoy mathematical problem solving and generalization. Students are expected to already possess knowledge of basic mathematical concepts and the skills needed to apply simple mathematical techniques correctly. Students are also expected to have had strong background in Geometry and Algebra II. Topics of study include: number and algebra, functions, geometry and trigonometry, statistics and probability, and calculus. A mathematical exploration will also be conducted. This is a short report based on a topic of interest chosen by the student that focuses on the mathematics of that particular area.

### **IB DP Mathematics: Analysis and Approaches HL**

**Prerequisite:** Algebra I, Geometry, and Algebra II

This course caters for students with a good background in mathematics who are competent in a range of analytical and technical skills. The first year covers advanced pre-calculus. The 2<sup>nd</sup> year is comprised of advanced statistics and advanced calculus. The majority of these students will be expecting to include mathematics as a major component of their university studies, either as a subject in its own right or within courses such as physics, engineering and technology. Others may take this subject because they have a strong interest in mathematics and enjoy meeting its challenges and engaging with its problems. It is not typically recommended that students take this course immediately following Algebra 2 although some have done so. Most students who take this course have completed a year of math beyond Algebra 2 to prepare for the challenge.

If you have any questions, please contact your math teacher.

Sincerely,

City High Middle Math Department