

Mathematics

I. Course description and aims

IB Mathematics has two distinct courses, both available at Higher and Standard Level.

Mathematics: Analysis and approaches course will be offered at both Standard Level and Higher Level. It is designed for students who enjoy developing their mathematics to become fluent in the construction of mathematical arguments and develop strong skills in mathematical thinking. They will explore real and abstract applications, sometimes with technology, and will enjoy the thrill of mathematical problem solving and generalization. Standard Level: This class is most similar to the current Mathematics Standard Level course. Higher Level: This class is most similar to the current Mathematics Higher Level course.

Mathematics: Applications and interpretation course will be offered at both Standard Level and Higher Level for students who are interested in developing their mathematics for describing our world, modelling and solving practical problems using the power of technology. Students who take Mathematics: Applications and interpretation will be those who enjoy mathematics best when seen in a practical context. Standard Level: This class is most similar to the current Mathematical Studies Standard Level course. Higher Level: This course will include new content, including statistics. It is intended to meet the needs of students whose interest in mathematics is more practical than theoretical but seek more challenging content.

Aims of the courses:

The mathematics courses aim to contribute to students' personal attributes, subject understanding and global awareness by enabling them to:

1. develop a curiosity and enjoyment of mathematics, and appreciate its elegance and power
2. develop an understanding of the concepts, principles and nature of mathematics
3. communicate mathematics clearly, concisely and confidently in a variety of contexts
4. develop logical and creative thinking, and patience and persistence in problem solving to instill confidence in using mathematics
5. employ and refine their powers of abstraction and generalization
6. 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
7. appreciate how developments in technology and mathematics influence each other
8. appreciate the moral, social and ethical questions arising from the work of mathematicians and its applications
9. appreciate the universality of mathematics and its multicultural, international and historical perspectives
10. appreciate the contribution of mathematics to other disciplines, and as a particular "area of knowledge" in the TOK course.
11. develop the ability to reflect critically upon their own work and the work of others
12. independently and collaboratively extend their understanding of mathematics.