

## DP Mathematics curriculum review – Frequently Asked Questions

### Why are the changes being made?

All DP curriculums are reviewed on a seven-year teaching cycle. This ensures that each is fit for purpose and incorporate the latest educational research and lessons learned from a thorough evaluation of the existing curriculum. We want to develop courses that allow enough flexibility to address the needs of all students in the modern world. We believe the new DP mathematics subjects will offer more choice for a greater number of students as well as offer schools greater flexibility in the way that they group students, schedule lessons and teach the content.

### When is first teaching and first examination of the new subjects?

First teaching will take place in 2019 with first assessment in 2021. New guides will come out to schools in early 2019 and subject specific seminars to launch the new subjects, will also take place around this time, to give teachers and schools time to prepare for the new subjects.

### What are the plans for the new subjects?

There will be two new subjects in mathematics replacing the current four subjects. The subjects will be called Mathematics: Analysis and approaches and Mathematics: Applications and interpretation

Both subjects are being designed to appeal to students with varying levels of ability and motivation in mathematics, but will be developing their mathematics fluency, their ability to think mathematically, to recognise mathematics around them and to be able to use their mathematics in either abstract or contextual settings.

Mathematics: Analysis and approaches is intended for students who wish to pursue studies in mathematics at university or subjects that have a large mathematical content; it is for students who enjoy developing mathematical arguments, problem solving and exploring real and abstract applications, with and without technology. Mathematics: Analysis and approaches will be a development from the current Mathematics HL and SL subjects.

Mathematics: Applications and interpretation is being designed for students who enjoy describing the real world and solving practical problems using mathematics; those who are interested in harnessing the power of technology

alongside exploring mathematical models and enjoy the more practical side of mathematics. Mathematics: Applications and interpretation SL will be developed from Mathematical studies SL. The HL course will be new content including elements of the current HL statistics and discrete content.

Both Mathematics: Analysis and approaches and Mathematics: Applications and interpretation will be offered at HL and SL, and within each subject the SL course will be a complete subset of the HL course.

### What does SL as a subset of HL mean?

As in most other subjects within the diploma programme the SL course is a subset of the HL course; mathematics has always been a little different in this respect with the two SL and the two HL courses being separate subjects. When SL becomes a subset of HL this means that HL students will complete the 150 hours of the SL course as part of the total 240 hours of the HL course. This will increase the accessibility of the HL courses by encouraging strong SL students to consider taking mathematics at HL.

### Are schools and universities consulted about changes during a review?

Yes, and consultation with schools and universities is ongoing throughout the seven-year review process. There are many ways in which consultation takes place including surveys to schools and universities, we gather reports from our senior examinations teams, we conduct expert panel discussions, we carry out literature reviews to consider current trends in mathematics education, we compare our syllabi to other syllabi worldwide, we commission universities to conduct research on the direction of mathematics education, as well as gathering feedback from our educator network through workshops, conferences and school visits.

### Will there still be an internal assessment (IA)?

Yes, IA is going to be based on the current HL and SL exploration model for both subjects. The exploration has proved to be a popular, robust and reliable assessment tool. A trial was conducted in September 2016 which showed that students who produce a Mathematical studies SL type project would not be at a disadvantage if this is changed to the exploration model.

### **What is the purpose of the 30 hours for investigation, modelling, inquiry and the IA?**

As the name suggests this will be in-class time devoted to carrying out investigations, modelling and inquiry activities, as well as completing the IA. This will allow students more time to engage with and understand the ideas, concepts and applications they are studying, as well as learning important investigational and modelling techniques. This will also allow teachers flexibility to decide where and when they use these 30 hours.

### **How will the courses be assessed?**

SL students will complete two externally assessed written papers and the internal assessment, HL students will complete three externally assessed written papers and the internal assessment.

### **Will there be any HL options?**

There will not be any HL options as there are currently, however much of the current calculus option will appear in the Mathematics: Analysis and approaches HL and some of the current statistics and discrete options will appear in the Mathematics: Applications and interpretation HL course.

### **What's happening with Further mathematics HL?**

Further mathematics HL will cease to exist following the current review. The last assessment of Further mathematics HL will be May 2020.

### **Is Mathematical studies SL going?**

The name Mathematical studies SL will cease to exist but the new Mathematics: Applications and interpretation SL course is being designed to appeal to those students who would previously have taken Mathematical studies SL, as well as students with an interest in using technology to solve mathematical problems in practical contexts. There will be a few new developments suggested from our research in order to make the course more fit for purpose in the modern world.

***DP curriculum review and development is an in-depth and inclusive process, drawing on the information and expertise from a wide range of resources. Download this guide to learn more:***

<http://www.ibo.org/globalassets/publications/recognition/rec4122recognitioncurriculumbrief-5web.pdf>

