AS and A Level Maths

Intent

We encourage all our students to become successful learners and enjoy learning mathematics. We want them to develop a growth mind-set so that they are able to embrace challenging and problem solving tasks. We also want them to recognise the importance of mathematics in the wider world and be able to use their mathematical skills and knowledge confidently in their lives in a range of different contexts.

We set challenging targets with high expectations for all students. We ensure that they make the right level of progress and achieve their very best. We offer a variety of approaches to teaching and learning to engage and motivate pupils and demand their active participation. We allow students to develop transferable skills and explore enrichment opportunities outside the curriculum to get them ready for the future. We encourage our students to study mathematics related subjects beyond A Level.

Our schemes of work are cumulative and coherently planned and sequenced towards accumulating sufficient knowledge and skills for future learning and employment. We give opportunities for students to develop cultural capital and a range of desirable personal qualities such as politeness, perseverance and independence.

Implementation

The implementation of the curriculum is executed well.
In Year 12, students are introduced to core algebra topics along with trigonometry and calculus. The work students did in the data handling part of their GCSE course is also extended.
In year 13, pupils extend their learning on year 12 topics and also learn new topics such as sequences, modulus functions and logarithms. They also study binomial and normal distributions in depth. They are introduced to Mechanics topics including kinematics and forces and motion. Students learn how to describe mathematically the motion of objects and how they respond to forces acting on them.

Good learning resources lead to good outcome. This is why every year teachers update the lesson PowerPoints to meet the needs of every learner. All students follow the same schemes of work, but resources are differentiated and opportunities created within lesson for students to learn from each other. A student version of the schemes of work is included in the progress tracker so that they can self-check and plan their revision for all of their exams. All students are encouraged to use VLE platforms for revision and are required to complete weekly homework on Dr Frost maths. To ensure that students continue to study during lockdown we made available key resources on Frog and on Microsoft Teams.

Being organised is a vital skill and we work hard to instil this in all our students. Teachers conduct weekly folder checks to ensure that students' resources are organised in their folders and they complete exam reflection sheets after every Assessment Point. Teachers promote independence and encourage their students to record all independent study tasks in the progress tracker.

Impact

Maths at Stepney Green has always been strong as we have a very high retention rate. Our top achieving students from year 11 continue to study maths at A Level. We started with a small number of students in A level and now we have over 70 students studying in year 12 and 33 in year 13. We have a high retention rate of Maths students from AS to A Level evidencing students' enjoyment and commitment for the subject. Only 4 students opted for AS level in the last academic year (2019-20). Recruitment in the subject continues to improve year on year.

The quantifiable impact of the Maths A Level at Stepney Green is clear. The table below shows performance of our maths students in the recent years:

Heading	**Academic year 2017 - 2018**	**Academic year 2018 - 2019**	**Academic year 2019 - 2020**
Number of students	28	29	35
Average GCSE Score	6.3	6.7	6.48
ALPS Grade	5	5	5
ALPS Score	0.96	0.94	0.93
A* - B (%)	42.9	55.2	45.7
A* - C (%)	78.6	75.9	74.3
A* - E (%)	100	100	100

After completing A Levels our year 13 students choose maths related subjects for their higher education. They are able to secure places at UK's top universities including Oxford and Imperial.

Students are regularly offered opportunities to give feedback about their studies. They report positively about their experiences in Maths. They describe the maths department as one of the best resourced departments.