

# Short inspection of King's College London Maths School

Inspection dates:

16 and 17 September 2024

## **Outcome**

King's College London Maths School continues to be an outstanding provider.

## **Information about this provider**

King's College London Maths School (KCLMS) is a selective 16 to 19 free school based in Lambeth. It was established in 2014 in partnership with King's College London to provide sixth-form education and university guidance for students with an aptitude and enthusiasm for mathematics.

At the time of the inspection, there were 78 students in Year 12 and 79 students in Year 13. All students follow a core curriculum of further maths, mathematics and physics A-level courses across two years. Additionally, students take an AS-level qualification in Year 12 in either economics or computer science. Students may also complete an extended project qualification or other optional enrichment courses that support academic learning, such as problem-solving, teamwork and extended writing.

KCLMS does not work with any subcontractors.

## **What is it like to be a learner with this provider?**

From the beginning of their time at the school, students quickly get to know each other through events that staff and students organise, such as bushcraft trips and clubs. This leads to a friendly, close-knit community that students value for its inclusivity. Students feel safe at the school. They say that the school feels like a second home.

Students embrace the culture that leaders set, which they refer to as 'productive struggle'. With the support of highly committed and skilled teachers and tutors, students work collaboratively in the classroom to challenge themselves. Outside lessons, groups of students and staff make excellent use of well-designed break-out spaces to discuss complex maths and physics problems with great enthusiasm. Students thoroughly enjoy this way of working. They grow into confident, articulate scholars who are well prepared for demanding undergraduate courses. They achieve

exceptionally high grades in their A levels and university entrance tests that enable them to go on to their chosen universities.

## **What does the provider do well and what does it need to do better?**

Leaders and managers have developed an extremely ambitious curriculum. They supplement the core A-level and AS-level curriculums with additional academic enrichment courses they have designed themselves, such as the King's certificate for Year 12 students. As a result of this demanding programme, students gain a deep conceptual understanding of mathematical principles. They also become proficient in broad academic skills, such as research, presentation and academic extended writing.

Leaders, managers and teachers have designed a curriculum that is carefully sequenced to make the best educational sense for their students. For example, teachers teach differential equations early within the mechanics strand of the maths A level so that students can apply these to equations in mechanics and physics. Students can then use their knowledge of differential equations to solve terminal velocity problems in physics. Students value how the curriculum structure in maths helps support their understanding of physics and vice versa.

The quality of teaching is exceptionally high. Well-qualified teachers expertly check students' understanding of underpinning concepts, frequently asking students to explain their reasoning. In Year 12 mechanics, teachers carefully outline common misunderstandings about forces, such as correcting students if they misapply Newton's third law. Students remember the correct application of the law and do not carry misconceptions forward into subsequent lessons. In computer science, teachers ask students to predict data set outcomes before programming code into Python software and then testing their calculations. This helps students to develop their reasoning and problem-solving skills.

Teachers use homework well to reinforce learning between lessons. They give clear guidance to ensure that the work is meaningful and timebound. Homework helps students to consolidate their understanding and practise their skills, while not being overwhelming. Across all subjects, teachers give students useful feedback about their homework. As a result, the quality of students' work improves rapidly, and they rarely make the same mistakes twice. In maths, students' notation becomes clearer and more fluent over time. In economics, students become highly adept at answering extended written answers.

Leaders, managers and teachers use assessments extremely well to plan lessons and adapt the content to meet the needs of different students. For example, they closely monitor assessment results to check that students who need extra help gain the mathematical knowledge and skills that they need to succeed. Leaders provide specialist training for teachers and learning support staff, who successfully help students who need extra support with their work. Students who need extra help achieve as well as their peers.

Careers staff arrange an excellent range of specialist careers talks and activities. For example, all students attend lectures from academics and NASA employees about physics research and careers. Students have a sound understanding of the potential career pathways that follow a degree in mathematical sciences or related subjects. Staff are particularly good at providing careers opportunities and help with applications for students from disadvantaged backgrounds. As a result, most students, regardless of their background, gain relevant work experience placements that help prepare them for their future careers.

Experienced governors are highly committed to their roles. They support leaders exceptionally well to plan and implement improvements that will help to maintain the school's status as an outstanding provider of mathematics education. Governors and leaders maintain rigorous oversight of the quality of the provision. Consequently, they know the strengths and areas for further improvement of the school extremely well. Leaders put in place effective measures to improve quality rapidly where they identify areas for development.

## **Safeguarding**

The arrangements for safeguarding are effective.

## **Provider details**

<b>Unique reference number</b>	140564
<b>Address</b>	80 Kennington Road London SE11 6NJ
<b>Contact number</b>	02078487346
<b>Website</b>	<a href="http://www.kingsmathsschool.com">www.kingsmathsschool.com</a>
<b>Principal, CEO or equivalent</b>	Timothy Bateup
<b>Provider type</b>	16 to 19 free school
<b>Date of previous inspection</b>	25 to 27 April 2017

## Information about this inspection

The inspection was the first short inspection carried out since King's College London Maths School was judged to be outstanding in April 2017.

The inspection team was assisted by the deputy head, as nominee. Inspectors took account of the provider's most recent self-assessment report and development plans, and the previous inspection report. The inspection was carried out using the [further education and skills inspection handbook](#) and took into account all relevant provision at the provider. Inspectors collected a wide range of evidence to inform judgements, including visiting learning sessions, scrutinising learners' work, seeking the views of learners, staff and other stakeholders, and examining the provider's documentation and records.

## Inspection team

Claudia Harrison, lead inspector

His Majesty's Inspector

Chloe Rendall

His Majesty's Inspector

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