




KING'S
College
LONDON



KING'S
MATHS
SCHOOL

Mathematics Mentor & Trainee Teacher

King's College London Mathematics School

- 1 year fixed term
- Start date 30 August 2022
- £24,000-26,000 tax free allowance

Job pack contents:

- Application procedure
- Information about King's College London Mathematics School, and the post;
- Job description;
- Person specification.

Application Procedure

Should you wish to apply for this position please send the following:

- A completed application form, and
- An Equality and Diversity reporting form

Links to these documents can be found on our [website](#).

You may include a curriculum vitae and/or covering letter as well as, but not in place of, the application form.

Applications should be made electronically in Word or PDF format by email to mathsschool@kcl.ac.uk. Enquiries may be made to Tiffany Woods-Shepherd, Director of Outreach and Widening Participation, using the same email address.

Closing date: 09:00 on Monday 4 July.

Interviews will be held: Thursday 7 July.

Please advise your referees that they may be contacted and asked to provide a reference at short notice.

King's College London Mathematics School (KCLMS)

<https://www.kingsmathsschool.com/>

King's College London Mathematics School is for students with a particular aptitude and enthusiasm for mathematics, and aims to widen participation in mathematical degrees and careers at the very best institutions. The state-funded school was opened in September 2014 by King's College London, and since then its students have consistently achieved unparalleled attainment and progress through A Level results that have established the school as the top performing school in the country. Following the school's success, maths schools are now being opened by universities across the UK. The school was recently awarded State Sixth Form School of the Decade by The Sunday Times.

The curriculum

Our aim for the curriculum is for it to not only ensure excellent progress and attainment at A-level, but also to prepare students for successful further study and careers in the mathematical sciences.

All students at the school take Mathematics, Further Mathematics and Physics to A-level, and either Computer Science or Economics to AS-level. They also take part in an extended curriculum that develops research, independence, literacy and communication skills, and that encourages the development of interests and of a healthy lifestyle. The school's educational ethos involves supporting students' future fulfilment by enabling confident self-expression both within and without our curriculum.

Students are prepared throughout their time at the school for the most challenging qualifications at sixth form level, including the STEP (Sixth Term Examination Paper, set by the University of Cambridge). They are also prepared to enter the many individual challenges and team competitions that are available in mathematics, physics and computer science.

The link to King's College London

King's College London is one of the top 10 universities in Europe (*Times Higher Education World University Rankings 2020*) and the fourth oldest in England. It is the sponsoring organisation for KCLMS, and the university maintains strong strategic and operational links with the school. Strategic oversight is provided by the university through the school's governance structures, and academics from the faculty of Natural, Mathematical and Engineering Sciences interact with KCLMS students by teaching extension programmes and mentoring groups of students working on extended research projects.

Site and Size

The school is located on Lambeth Walk, near to the Imperial War Museum and a short walk from King's College London's Waterloo campus. The school has 150 students split between year 12 and year 13.

Admissions Policy

KCLMS operates a selective admissions process. The key entry requirements are:

- At least seven GCSEs at grade 5-9, including: Mathematics (grade 8 or better), Physics or dual award science (grade 7 or better), and English Language (grade 5-9);
- A threshold score in a mathematical entry test set by KCLMS;
- A successful interview in which the school will further assess applicants' ability to benefit from the experience of attending a specialist mathematics school.

The school is committed to recruiting a significant proportion of students from socially and financially disadvantaged backgrounds, and to an outreach programme to further this objective.

Outreach

KCLMS aims to be a centre of excellence for the teaching of mathematics and its applications. The school supports high-attaining students across London, and in particular those who come from more challenging backgrounds, to develop their mathematical skillset, and also works with teachers to provide professional development around the teaching of Mathematics and Further Mathematics A Levels.

Why work for King's Maths School?

At King's Maths School we are proud to be an equal opportunity employer. We celebrate diversity and are committed to creating an inclusive environment for all employees. Benefits include:

- Being part of a small, knowledgeable and fun team.
- The opportunity to work with young people who are deeply curious, focused and ambitious.
- 3 flexible holidays days per year that can be used during term-time to engage with opportunities that would otherwise be difficult for teachers to attend.
- A highly collaborative ethos including weekly group lesson planning.
- Family leave benefits that are better than the industry standard, including for adoption and surrogacy.
- A later start, with lessons commencing at 09:25.
- A cycle to work scheme, bike shed and changing room facilities.
- Access to King's College London's research and learning facilities.
- Opportunities to attend a range of cultural events for free as part of our cultural programme.
- A progressive staff wellbeing policy.

Mathematics Mentor and Trainee Teacher

We are seeking to appoint a mathematics mentor to teach students to be confident in mathematical thinking and problem solving through King's Maths School's curriculum of "extension and challenge" and to be an integral member of the KCLMS Outreach Team. The post represents an exciting opportunity for a well-qualified mathematician to gain experience of sixth form education and work with some very able, highly motivated, inspiring young people. The school has well-established and rich links with the faculty of Natural, Mathematical and Engineering Sciences at King's College London.

The post provides a formal training opportunity and thus a hands-on entry to the teaching profession: the successful candidate will be enrolled on the Schools Direct Programme (via [Lambeth Training Schools Alliance and the University of Roehampton](#)) and complete their teacher training over the course of the 2022-23 academic year. The programme is scheduled to consist of:

- Weekly full day sessions hosted by Roehampton University
- Regular mentor meetings and observations with an experience King's Maths School teacher
- A 6-week placement at a school teaching Key Stage 3&4 classes

The Mathematics Mentor will teach an A-Level class covering content from the Mathematics and Further Mathematics syllabuses, supported by an experienced teacher at the school. They will also work with smaller groups on our challenge and extension curriculum, which encompasses:

- Weekly problem-solving sessions in year 12 taught in small groups (approximately 8-9 students) that focus on mathematical thinking, collaboration, and introducing students through problems to some key extra-curricular material (e.g. elementary number theory).
- Fortnightly afternoons in year 12 spent exposing students to different sorts of "challenge" problems, ranging from UKMT multiple choice questions to university entrance examination questions drawn from MAT, STEP and other related examinations.
- A weekly afternoon of university application preparation for year 13 students focusing on preparation for entrance examinations and interviews.
- A range of optional courses taken in year 13 from a programme called "Curriculum X"; courses are designed to extend, develop deeper understanding, as well as to support students to make the transition from school to university level mathematics successfully and smoothly.
- Optional sessions where students can work on Olympiad and similar problems.
- A range of encouraged but optional competitions for individuals and teams (e.g. STMC, Mathsombe, the Singapore International Mathematics Challenge).

King's Maths School also runs various outreach activities that the Maths Mentor will support in running. The purpose of these activities is to widen participation in mathematics and develop the mathematical interest and talent of young people from disadvantaged or underrepresented backgrounds who have an inclination towards the subject. The outreach activities include:

- Weekly GCSE+ Maths classes for years 9 and 10, these run after school on a Monday and Thursday until 6.30pm. The Maths Mentor will support in sessions and there is the option for them to deliver these sessions collaboratively or independently as well.
- MESME Maths Circles: mentoring high attaining students from years 7-9 in groups of 6.
- Admissions support for students applying to KCLMS from underrepresented backgrounds. This includes providing feedback on specimen questions ahead of our admissions test and offering practice interviews.

We are looking for a well-qualified mathematician with a fascination for the subject and some experience in helping others develop their understanding and skill in mathematics to be involved with some or all of the above curriculum activity. The post is open to both those graduating from their studies and those with more experience.

The post will commence from 30 August 2022 and is for a fixed term training contract lasting 1 year.

Job description

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|----------------|-------------------------|
| Post title | Mathematics Mentor |
| Responsible to | Lead Teacher (Outreach) |

Role outline

The mathematics mentor will teach an A Level class in the core curriculum and is also responsible for providing extension and challenge to students at KCLMS through leading and/or supporting problem solving sessions, challenge sessions and Curriculum X courses.

The mathematics mentor will work with students enrolled on KCLMS outreach programmes, including GCSE+ Maths, King's Maths Circles, primary school outreach, admissions support, and the Weekly Maths Challenge+.

Responsibilities and Activities

As the mathematics mentor:

- To support the school in developing an inventive approach to teaching, learning and assessment in the subject so that all students, both at the school and through outreach, are challenged effectively and enabled not simply to get high grades but also to gain an excellent understanding of the subject which propels them into successful further study.
- To teach learning sessions to KCLMS students, maintaining outstanding standards of learning, teaching and assessment, where the sessions are drawn from the following:
 - an A Level class in the core curriculum
 - the problem-solving curriculum in year 12
 - challenge sessions for year 12 and year 13
 - Curriculum X sessions
- To prepare selected students for MAT/STEP/AEA extension papers.
- To run BMO/MOG introductory and training sessions.
- To bring the same KCLMS teaching approach to outreach activities including GCSE+ Maths, King's Maths Circles, primary school outreach, admissions support, and the Weekly Maths Challenge+.
- To review and prepare appropriate resources for learning sessions, including outreach sessions.
- To provide academic support for students in their learning sessions, as well as a reasonable degree of support outside learning sessions (eg after school or during part of lunch) to ensure that every student makes continuous and effective progress.
- To provide feedback on students' progress to the school, to parents and to students themselves where appropriate and as directed by Senior Leaders.
- To provide or contribute to written assessments, reports and references relating to individual students and groups of students.

As a member of staff:

- To contribute to a programme of after-school and lunchtime academic enrichment and co-curricular activities.
- To participate in recruitment events such as Open Evenings, Taster Days and Interview Days, some of which take place on weekday evenings or at weekends (no more than 5 days, and our terms are shorter to account for these extras).

- To lead or assist offsite trips and visits (any necessary training, for example around First Aid or Risk Assessment, will be provided).
- To contribute to the establishment and maintenance of a caring, positive, safe and stimulating environment for all students.
- To prioritise at all times the safety and well-being of the students by following the Welfare & Safeguarding policies.
- To attend INSET days and demonstrate a personal commitment to be fully up-to-date with training.
- To take a share of the duties around student supervision.
- To provide cover for absent colleagues, and participate in arrangements for students' supervision during public examinations.
- To undertake any other duties which may be reasonably required by Senior Leaders.

Person specification

Eligibility to work in the United Kingdom

The advertising of this post has not been compliant with UKBA guidelines for candidates who need to apply for a Certificate of Sponsorship to work in the UK.

| Criteria | E S S E N T I A L | D E S I R A B L E | HOW IDENTIFIED AND ASSESSED | |
|--|---|---|-----------------------------|--------------|
| | | | AP | I R TL |
| Education/qualification and training | | | | |
| Excellent grades in A-level Mathematics and Further Mathematics, or equivalent qualifications | X | | AP | |
| Good honours degree or higher in Mathematics | X | | AP | |
| Experience | | | | |
| Some experience of teaching / tutoring students | X | | AP, TL, R | |
| Successful and recent teaching experience of mathematics to high-attaining students | | X | AP, I | |
| Experience with working on / supporting others with extension mathematics such as STEP, MAT, AEA, UKMT challenges, BMO | | X | AP, I | |
| Knowledge/skills | | | | |
| Precise and analytical self-reflection | X | | I, TL | |
| The depth of mathematical knowledge and the mental agility to allow flexibility in learning sessions | X | | I, TL | |
| Ability to quickly create effective rapport and a constructive relationship with students | X | | TL | |
| Excellent communication skills, both written and verbal | X | | AP, I | |
| Excellent organisational skills, including keen attention to detail | X | | AP, I | |

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|---|---|---|-------|
| Excellent IT skills, including the ability to learn new systems quickly and use them intelligently and flexibly | X | | AP, I |
| Understanding of the barriers faced by students from disadvantaged backgrounds and a commitment to supporting students to overcome them | | X | AP, I |
| Personal characteristics/other requirements | | | |
| Commitment to the educational and outreach vision and the mission of King's College London Mathematics School | X | | AP, I |
| Profound and continuing interest in the subject(s) to be taught | X | | AP, I |
| Profound and continuing interest in learning, teaching and assessment | X | | AP, I |
| Commitment to own self-development | X | | AP, I |
| Capacity to take initiative and to innovate | X | | AP, I |
| Ability to lead and to enthuse others | X | | AP, I |
| Ability to work constructively with others inside and outside the school | X | | AP, I |
| Integrity and reliability | X | | AP, I |

Safeguarding

King's College London Mathematics School is committed to safeguarding the welfare and well-being of children and applicants must be willing to undergo child protection screening appropriate to this post, including checks with past employers and the Disclosure and Barring Service.

Equal opportunities

King's College London Mathematics School recognises that equality of opportunity and the recognition and promotion of diversity are integral to its strengths. The following principles apply in respect of the School's commitment to equality and diversity:

- To provide and promote equality of opportunity in all areas of its work and activity;
- To recognise and develop the diversity of skills and talent within its current and potential community;
- To ensure that all employees and prospective employees of the School are treated solely on the basis of their merits, abilities and potential without receiving any unjustified discrimination or unfavourable treatment on grounds such as age, disability, marital or civil partner status, pregnancy or maternity, race, religion or belief, sex, sexual orientation, gender, gender reassignment, trans status, socio-economic status or any other irrelevant distinction;
- To provide and promote a positive working, learning, and social environment which is free from prejudice, discrimination and any forms of harassment, bullying or victimisation;
- To promote good relations between individuals from different groups.

We don't want potential candidates to be put off if they believe they do not meet every one of the qualifications as described in a job description. We are most interested in finding the best candidate for the job, and that candidate may be one who comes from a less traditional background. We would encourage you to apply, even if you don't believe you meet every one of our qualifications described.

Applicants with disabilities

King's College London Mathematics School is keen to increase the number of disabled people it employs. We therefore encourage applications from individuals with a disability who are able to carry out the duties of the post. If you have special needs in relation to your application, please contact the Business Manager, Nicola Cosgrove, by emailing nicola.cosgrove@kcl.ac.uk

Thank you for your interest in King's College London Mathematics School.