



Lead Teacher of Mathematics

King's College London Mathematics School

- Full time from September 2017
- Salary £36,000 - £45,000 depending on experience

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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 Mr Dan Abramson, Head Teacher, using the same email address.

Closing date: noon on Tuesday 6 December.

Interviews will be held: week commencing 12 December.

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)

www.kcl.ac.uk/mathsschool

King's College London Mathematics School is for highly motivated students aged 16-19 with a particular aptitude and enthusiasm for mathematics who wish to progress to competitive degrees and careers in which mathematics is applied. The school aims to widen participation in high quality mathematics teaching by recruiting students who would not otherwise have access to such teaching at sixth form level. The school opened in September 2014.

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 study at university.

All students at the school take Mathematics, Further Mathematics and Physics to A-level, and either Computer Science or Economics to at least AS-level. They also take part in an extended curriculum that includes a modern language, and that develops literacy and communication skills through a programme of personal development and of academic literacy leading to optional completion of an Extended Project Qualification. Throughout both the core and the extended curriculum there is an emphasis on a connected and coherent approach that reflects the links between subjects.

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 Cambridge, which is an important pre-requisite for mathematics courses at some of the best universities in the UK. 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 are the sponsoring organisation for King's College London Mathematics School, and the university maintains strong strategic and operational links with the school. The Mathematics, Physics and Informatics departments of King's College London were closely involved in curriculum development for the school and maintain an ongoing supportive role, ensuring strong intellectual foundations and insight into developing applications of mathematics. PhD students from King's visit the school weekly to run problem solving classes for students in small groups.

King's has an outstanding reputation for providing world-class teaching and cutting-edge research. It is one of the top 25 universities in the world (2016/17 *QS World University Rankings*) and the fourth oldest in England.

Site and Size

The school is located on Lambeth Walk, near to the Imperial War Museum and a short walk from the King's Waterloo campus. The school has 140 students split between year 12 and year 13.

Admissions Policy

King's College London Mathematics School operates a selective admissions process. The key entry requirements are:

- At least 7 A*-C grades at GCSE, including an A* (or level 8+) in Maths, an A/A* and Physics or dual award science, and A*-C (or level 5+) in GCSE English;
- A threshold score in a mathematical entry test set by the King's College London Mathematics School;
- A successful interview in which the school will assess the likely impact it will have on the future career of each applicant.

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

Outreach

To help potential students from schools with little high-class mathematics provision reach the level required for successful study on arrival at King's College London Mathematics School, an outreach programme is essential. Over 200 Key Stage 4 students from various schools attend fortnightly enrichment sessions at which they are encouraged to approach GCSE material in new and challenging ways that develop their mathematical thinking and their understanding of how different branches of the subject are connected.

The outreach activities of the school are far broader than for recruitment purposes only, and the school plays an increasing role in mathematics education across the London area and beyond, as a focal point for professional development for teachers and activities for young mathematicians. It runs an in depth year-long professional development course for teachers new to teaching A-level Further Mathematics that is funded by The Goldsmiths Company. It has recently established a mathematics circle (a group of young mathematicians who meet regularly to engage in mathematical thinking) funded by the Worshipful Company of Actuaries, and will this year, in collaboration with King's College London, run an Easter revision school for high attaining GCSE students aiming at top grades as well as a Physics summer school aimed at supporting those with two science GCSEs to progress to A level Physics.

The long-term vision held both by the governors of the school and also by the Department for Education is that King's College London Mathematics School becomes a centre of excellence for the teaching of mathematics and its applications.

Lead Teacher of Mathematics

The school is seeking to appoint a dynamic and inspirational teacher of mathematics to lead and manage the mathematics department, taking responsibility for all areas of learning, teaching and assessment as well as outcomes in mathematics, and to help to realise the vision and ambitions for the school.

Mathematics lies at the core of everything that takes place at King's College London Mathematics School; it is the passion that unites teachers and students alike, and it represents a way of thinking and creating that empowers and enriches all the different aspects of the school curriculum.

Whilst the school has many high-attaining students, the department does not accelerate through A-level material to focus on university level content, but instead teaches in a way that develops effective mathematical thinking. The aim is to provide students with not only a powerful set of tools but also the ability to use those tools flexibly and creatively, and to help them to internalise an understanding of each idea encountered as well as of the connections between those ideas. Using the A-level Mathematics and Further Mathematics as a framework for such developments, students begin to see both what pure mathematics is, and how mathematics can be applied in complex situations where complete solutions may not be possible. The approach taken employs a greater rigour than would usually be expected at this level, with a general supposition that statements are proved and methods justified. In lessons, teachers focus on the use of Socratic questioning to test and develop understanding, and on carefully structured problems to provide effective learning experiences for students.

The mathematics department consists of nine well-qualified mathematicians, and is highly collaborative: in addition to a weekly department meeting, there is at least one session per week for each of the core, mechanics and statistics/decision sections of the curriculum dedicated to discussion and planning of upcoming content. By working together to plan lessons in detail, the department builds into its daily practice the lesson study model that research has shown to be so effective.

There is an excitement around mathematics beyond the classroom, and this extends to the many individual and team competitions that exist as well as to mathematical talks and activities. The school hosts an annual video competition jointly with the Exeter Mathematics School, and publishes a weekly mathematics challenge aimed at KS4 students on its website.

The successful candidate will have strong academic credentials. They will have a proven track record of outstanding teaching and will have shown initiative and leadership in their career to date. A vital

qualification will be that they share the vision of the school to help young people with a particular aptitude for mathematics find challenge and excitement in a curriculum that fosters intellectual growth and curiosity.

The post will commence from 1 September 2017.

Job description

Post title	Lead Teacher of Mathematics
Responsible to	Head Teacher

Role outline

The Lead Teacher of Mathematics will lead and manage the mathematics department and will be accountable for all aspects of learning, teaching and assessment as well as student outcomes in mathematics. They will be responsible for leading and managing the teachers of mathematics, for the delivery of a high quality and enriching mathematics curriculum, for ensuring the academic progress of students, promoting the subject more widely and encouraging further study of mathematics in higher education as well as supporting such applications. They will take charge of the care, guidance and support of a tutor group, and will work collaboratively with all staff to realise the vision of the school.

Responsibilities and Activities

As the Lead Teacher of Mathematics:

- To be accountable for the quality of learning, teaching and assessment of mathematics.
- To be accountable for student outcomes in all areas of the mathematics curriculum.
- To continue to develop a rich Mathematics and Further Mathematics A level curriculum as well as a programme of challenge and enrichment activities appropriate to a specialist mathematics school where mathematics is the most popular choice for further study.
- To prepare a well-structured and detailed Scheme of Learning in advance of each term and in line with school policy.
- To implement whole-school learning, teaching and assessment strategies and policies, including for example the Literacy Policy.
- To monitor the quality of learning, teaching and assessment in mathematics, and to develop and implement plans to improve this.
- To organise and prepare interim assessments in line with school policy.
- To analyse internal and external assessment results, reflect carefully and critically on learning and teaching strategies in light of these and make changes where appropriate, and to report on the analysis and its implications to Senior Leaders as directed.
- Planning and implementing intervention strategies for students who are not making sufficient progress in the subject.
- To ensure that students have access to the required learning resources, including library books and textbooks.
- To assist in the appointment and induction of teachers of mathematics.
- To organise and run regular and purposeful meetings with the teachers of mathematics.
- To conduct performance reviews for line managed teachers of mathematics.
- To lead on the provision of internal and external CPD in mathematics, and to contribute to whole

school professional development in learning, teaching and assessment meetings.

- To undertake any feedback or additional professional development to ensure they are teaching Outstanding lessons, thus acting as a role model for their department.
- To attend meetings where appropriate between tutors and parents / carers and / or to provide any information required for such meetings.
- To write an annual Self-Assessment Report (SAR) for the department to support KCLMS' own self-assessment process, and to contribute to the ongoing review, assessment and revision of the whole-school SAR.
- To write an annual Quality Improvement Plan (QIP) for the department that reflects the priorities set out in the whole-school QIP, and lead and manage the implementation of the departmental QIP.
- To ensure that there is accurate and up to date knowledge about the Higher Educational options in mathematics available to students and tutors.
- To understand in detail the expectations and processes of Oxbridge, Russell Group universities and Sutton Trust top 30 universities around selective admission to read mathematics.
- To organise a detailed and developmental programme of preparation and support for students applying to read mathematics at university.
- To be responsible for the quality of subject references for UCAS applications.
- To ensure correct examination entries, and that all aspects of the examination process (external and also internal) are carried out on time and to a very high standard.
- To contribute to the writing of the timetable.
- To explain and present the subject at KCLMS Open Events.

As a Mathematics Teacher:

- To support the school in developing an inventive approach to teaching, learning and assessment in mathematics so that all students 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 mathematics to KCLMS students, maintaining outstanding standards of teaching and learning.
- To teach mathematics on KCLMS outreach programmes, including the GCSE enrichment programme.
- To prepare appropriate resources for lessons.
- To provide academic support for students in their lessons, as well as a reasonable degree of support outside lessons (e.g. 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.
- To participate in arrangements for preparing students for public examinations and in assessing students for the purposes of such examinations.
- To participate fully in the learning community of KCLMS teachers, for example by regularly observing colleagues and welcoming observations in return, by contributing enthusiastically to discussions around teaching and learning..
- To teach mathematics to students enrolled on the school's GCSE enrichment programme.

As a tutor:

- To take responsibility for the care, guidance and support and the academic monitoring of a tutorial group, to include tracking and reporting on students' attendance and their academic, social and personal development.
- To contribute to the teaching of Personal, Social and Health Education.
- To ensure that all students observe KCLMS policies relating to dress, behaviour and other matters, and that they take proper care of KCLMS's environment and resources.
- To contribute to the establishment and maintenance of a caring, positive, safe and stimulating environment for each student at King's College London Mathematics School.
- To prioritise at all times the safety and well-being of the students by following the Welfare & Safeguarding policies.

As a member of staff:

- To contribute to the teaching of the extended curriculum, including by staffing offsite visits.
- To contribute to the Extended Project Qualification programme, including by supporting students with projects.
- To contribute to a programme of after-school and lunchtime academic enrichment and co-curricular activities, which may sometimes require reasonable evening or weekend commitments, some of which will be offsite.
- 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.
- 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 each student at King's College London Mathematics School.
- To prioritise at all times the safety and well-being of the students by following the Welfare & Safeguarding policies.
- To attend training days in reasonable proximity to the start or end of the KCLMS terms (usually, within four working days of the published term dates), and demonstrating 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 Application I Interview R References TL Taught Lesson
Education/qualification and training			
Excellent grades in A-level Mathematics and Further Mathematics, or equivalent qualifications	X		AP
Good honours degree in Mathematics or in a subject containing a significant proportion of Mathematics	X		AP
Qualified Teacher Status		X	AP
PGCE		X	AP
Experience			
Successful and recent teaching experience of mathematics to high-attaining students aged 16-19	X		AP, TL, R
AS and A2 level Mathematics and Further Mathematics teaching	X		AP, TL, R
Successful leadership and management experience		X	AP, I
Assessing the quality of learning, teaching and assessment in mathematics in particular through lesson observations, learning walks and work scrutinies		X	AP, I
Conducting performance reviews for line managed staff		X	AP, I
Analysing and responding to student data		X	AP, I
Preparing students for university entrance in Mathematics, including supporting UCAS applications		X	AP, I
Preparing students for mathematical extension papers (STEP, MAT, AEA)		X	AP, I
Care, guidance and support as a pastoral tutor in a school	X		AP, I, R
Knowledge/skills			
Precise and analytical self-reflection	X		I, TL
The depth of knowledge and the mental agility to allow flexibility in lessons	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
Excellent IT skills, including the ability to learn new systems quickly and use them intelligently and flexibly	X		AP, I

Knowledge of research-based pedagogy		X	I, TL
Knowledge of the needs of SEN(D) learners, in particular learners with high-functioning Autism / Aspergers		X	AP, I
Personal characteristics/other requirements			
Commitment to the educational 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

Disclosure

This position is exempt from the Rehabilitation of Offenders Act (1974). As such, shortlisted candidates will be required to declare full details of any criminal background, regardless of whether the conviction is spent, and the College will be required to apply for a standard or enhanced disclosure (a criminal records check) from the Disclosure and Barring Service in relation to the successful candidate.

A criminal record will only be taken into account for recruitment purposes, where the conviction is relevant to the position being applied for, and whether this is the case, will not necessarily bar candidates from employment. Any decision will depend on the precise nature of the work, the circumstances and background to the offence(s). The same procedure will be followed for College staff applying internally for a vacancy.

Further information about the Disclosure scheme can be found at: www.gov.uk/dbs

Copies of the DBS's Code of Practice and the College's Recruitment Policy for posts requiring Disclosure are available on request.

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.

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 HR Manager, Gaenor Stevenson, by emailing Gaenor.Stevenson@kcl.ac.uk

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