



UNIVERSITY OF
LIVERPOOL
MATHS SCHOOL
EDUCATION FOR 16-19 YEAR OLDS

The University Of Liverpool Mathematics School Seeks To Appoint An Excellent And Enthusiastic Teacher Of A-Level Physics For September 2022

This is a permanent appointment

- Main Scale: £26,100 - £37,515
- Upper Pay Range: £39,270 - £42,228

The University of Liverpool Maths School teaches mathematics, physics and computer science to talented and motivated 16 to 19-year-old students from a wide variety of backgrounds. We also deliver an outreach programme, providing additional support in all our core subjects to a large number of students across Merseyside. We plan to significantly increase the reach and range of our outreach offer over the next few years, supporting teachers and schools to provide excellent STEM education through delivering CPD, alongside developing our activities with students across the region.

Our mission is to enable young people with a strong interest and high potential in the mathematical sciences in the Liverpool City Region and the north west of England to make a national and global impact through their work, learning and research in the mathematical sciences. We are particularly interested in widening participation in the mathematical sciences by supporting students with talent who have faced disadvantage in their lives and education so far and providing equality of access to STEM degrees and careers.

We opened in September 2020 and, have already made excellent progress with our objectives:

- Over 400 students were involved in our pre-opening outreach programme.
- 30% of our students are female
- We receive additional funding and other support from a range of sources

For all teaching roles at ULMaS we are looking for people who:

- enjoy tackling difficult, unseen problems and open-ended research projects;
- enjoy supporting and inspiring talented young people on the verge of adulthood;
- enjoy supporting students preparing for challenging university admissions tests;
- enjoy learning both within their main specialism and beyond;
- want to widen participation in the mathematical sciences and help to address inequalities;

- want to develop and deliver outreach activities as an ongoing element of their role; and
- will enjoy working with similarly minded, highly motivated colleagues in a close-knit team finding imaginative ways to deliver an excellent education to all our students both on roll and beyond the school.

Experience and/ or expertise in areas of the STEM curriculum beyond physics or in aspects of our wider curriculum will be a considerable advantage.

Our relationship with the University of Liverpool

The University of Liverpool is our key supporter, providing significant assistance and expertise and holding a key role in our governance structure. We are a separate entity from the University, with the school being owned and run by the *University of Liverpool Mathematics School* trust, which is a Single Academy Trust. The school's employees are employed by the ULMaS Trust and not by the University of Liverpool.

Employees' Terms and conditions

The school has its own pay scale and terms and conditions. Classroom teachers' pay is currently aligned with the main national scale but in September 2021 employees were awarded an additional cost of living rise. Further details of pay, contract and benefits will be provided at the interview.

- Main Scale Salary: £26,100 - £37,515
- Upper Pay Range Salary: £39,270 - £42,228 (in line with our pay policy teachers paid on this higher scale will have additional duties or responsibilities agreed as part of their job description)

The school's calendar is available [here](#). Our school holidays are based on Liverpool Local Authority term dates but with an earlier end to the summer term. Students finish the year in the first week of July, and most members of staff finish a week later. Teachers will sometimes be required to work some days during school holidays and occasional evenings and Saturdays in order to

- support student admissions,
- deliver outreach to students in other schools,
- teach taster sessions for prospective students, and
- support CPD for staff in other schools.

We anticipate that the successful candidates will deliver outreach sessions on two evenings per week, as part of their planned timetable. Flexible working patterns are available, and will be discussed with applicants individually.

The standard teaching allocation for a full-time classroom teacher is normally 22 hours per week. Wherever possible we make teachers' roles as flexible and family friendly as possible, whilst ensuring that the operational demands of the school are met.

Our staff members see working at this school as a privilege which offers unrivalled opportunities to teach and learn alongside like-minded colleagues and students. We plan to recruit colleagues who will continue to build and enjoy that great sense of teamwork and job satisfaction

Mathematics Schools

To get an idea of what maths schools are all about we recommend that you have a good look at our website liverpoolmathsschool.org and our [YouTube channel](#).

It's also worth investigating the websites for our fellow maths schools in [Exeter](#) and [King's College, London](#). ULMaS is a Single Academy Trust and not formally linked to EMS and KCLMS. Nonetheless the existing English maths schools have been hugely supportive of our development and we have borrowed many ideas and approaches from them.

Mathematics Schools are not about elitism but instead set out to include those who are disadvantaged or excluded from opportunities. They aim to develop talent and potential wherever it is found, and our outreach programme and admissions process are designed to help search out potential and widen participation in STEM. Although maths schools are selective, the aim of selection is to ensure that the students admitted are those who will benefit most from the education offered. Widening participation and developing potential are central to our mission.

A typical teacher's timetable

A typical full-time classroom teacher will teach approximately 20 one-hour lessons or lectures each week including 2 hours of after-school outreach (typically 4.30pm to 5.30pm; sometimes taught from home). In addition they will help to deliver 30 minute supervisions (small groups) and groups and one-one tutorial sessions.

A typical student's timetable

	Monday	Tuesday	Wednesday	Thursday	Friday
9:30am	Staff Meeting	Physics	Maths	Computer Science	Maths
10:25am	Physics	Maths lecture	Maths	Aspiring Mathematician Programme (AMP)	Physics
11:20am 11:35am	Break	Break	Break	Break	Break
	Tutor Time (PPEP)	Study Period	Assembly (PPEP)	Supervision	Supervision
12:05pm	Maths	Personal development lesson (PPEP)	Physics lecture	Study Period	Maths lecture
1:00pm	Lunch	Lunch	Lunch	Lunch	Lunch
2:00pm	Computer Science lecture	Maths	Computer Science	Maths	Computer Science
2:55pm 3:05pm	Break	Break	Break	Break	Break
	Supervision	One to ones (PPEP)/ study period	Supervision	One to ones (PPEP)/ study period	
3:35-4.30pm	Maths	Computer Science	Maths	Physics	3:00-4.00pm Sport

The Aspiring Mathematician Programme (AMP)

The AMP is a bespoke programme of activities designed to give students greater depth in their mathematical and scientific understanding, accelerated academic maturity and careers experiences which prepare them for work in STEM careers.

The aims of the AMP are to:

- Develop a range of academic and vocational skills and knowledge beyond those required at A-level
- Prepare students for the UCAS application process and university interviews
- Push our students' mathematical thinking to the point where challenging assessments like STEP and MAT start to feel like interesting puzzles rather than impossible challenges
- Develop students' experience of solving real life problems as well as examination questions
- Give students opportunities to be inspired by and work alongside academics, current undergraduates and researchers
- Facilitate students in the completion of at least one significant research task which culminates in an evening to showcase their outcomes
- Enhance students' ability to work in group related tasks and projects
- Broaden students' horizons in terms of their future career opportunities/aspirations by giving them genuinely valuable work experience and careers guidance
- Prepare students to take part in mathematics and science competitions like the UKMT Maths Challenges, the British Maths Olympiad and the British Physics Olympiad

The AMP will be delivered through mathematics, physics and computer science lessons as well as during additional periods set aside for AMP content that does not fit in the mainstream curriculum. University of Liverpool researchers will assist ULMaS teachers with supporting students to develop their problem-solving skills and help students to prepare for "challenge" papers such as STEP Mathematics and other university admissions assessments.

The Pastoral and Personal Enrichment Programme (PPEP)

The PPEP is a bespoke programme of tutorial meetings and group activities designed to meet the pastoral and personal enrichment needs of students in a maths school.

The aims of the PPEP are to:

- Enable us to closely monitor students' welfare and personal development so that we can take action as a school where there are grounds for concern about a student's wellbeing, safety or personal development.
- Ensure that ULMaS students develop the knowledge and skills they need to be safe, healthy, happy and productive in life.
- Facilitate the development of a strong community ethos within the school, in which students support each other and understand the different needs of members of the school community.
- Enable students to enjoy regular physical exercise and a healthy lifestyle and develop positive life-long attitudes to exercise, diet and lifestyle decisions.
- Prepare students for independence, developing good self-management skills and practical knowledge including personal financial management, time and task management, personal care etc.

- Ensure students have the knowledge and attitudes needed to keep themselves safe including sexual health, drug, alcohol and other substance abuse, and awareness and prevention of radicalism and extremism.
- Promote the continued development of students' cultural capital including reading for pleasure, appreciating the cultural opportunities on offer in Liverpool and more broadly and feeling confident to explore these opportunities as they leave school and move on to university and employment.
- Ensure that our students have a strong general knowledge of politics, economics

The programme will be delivered through:

- Weekly Personal Development lessons
- Weekly meetings of tutorial groups of students with Pastoral Tutors, featuring sessions in a planned structure across the year and delivered by school staff and visiting speakers
- Weekly exercise opportunities at Sport Liverpool and other venues
- Weekly assemblies
- Fortnightly one to one tutorial meetings between each individual student and their Pastoral Tutor. These will ensure that students are closely monitored and have an opportunity to discuss any concerns they have and request individual support with personal, academic or career issues.
- Opportunities to attend lunchtime clubs such as chess club, bridge club, strategy games club, book club, film club, politics & debating club
- Whole cohort opportunities after school and during the day such as
 - extra-curricular sports activities,
 - healthy cooking opportunities,
 - cultural activities such as art gallery, theatre and concert visits
 - visits to universities and research centres
 - Duke of Edinburgh award

School organisation

Groupings

Students are taught most lessons in year group lectures, class groups of up to 16 members and supervision groups of around 5 or 6. We do not currently set by ability, but we do amend groupings dynamically to accommodate students' different curricular needs including preparation for specific university entrance assessments.

Students are also a member of a tutorial group within a house (mixed Y12 and Y13). These groups meet weekly and their pastoral tutor is their first point of contact if they need additional advice or support. Students develop and deliver assemblies on behalf of their house and take part in competitions and other activities.

School Buildings

The school is currently housed in the Sir Alastair Pilkington Building on the University of Liverpool campus. We will be moving to a purpose-built permanent site on the edge of the campus soon; this is currently subject to a delay while the planning permission process is completed. The Sir Alastair Pilkington Building has been refurbished and is equipped with physics labs, an ICT suite, student

laptops, and classroom audio visual equipment. The temporary building offers ample office and classroom accommodation and a central location. The permanent building is already designed and will feature two fully equipped laboratories, a lecture theatre, eight other classrooms, a library and many other facilities.

Lunchtime and social arrangements

Belonging is an essential part of our ethos as a school, and nothing creates belonging like eating and drinking together, conversing and playing games and sport. An hour or more will be allowed for lunch (see the weekly timetable) depending on the day and there is a range of extra-curricular clubs and activities during lunchtimes to ensure that every student has a society or club to belong to and starts to form friendships and memories that will last a lifetime. We currently have the following clubs: chess, games (video and RPG), film, coding, robotics, Star Wars, media club, table tennis and debate. We also have a weekly sports session at the University Sports Centre where we play badminton, basketball, dodgeball and other sports.

Staffing plans

The school leadership is already in post, consisting of a Headteacher and Deputy Headteacher, a Head of Outreach and AMP, and three Heads of Department in Maths, Physics and Computer Science. We also have two other teachers in Mathematics and Computer Science. Our Business Manager leads a team of three administrators. The varied nature of teaching at ULMaS requires a candidate with excellent organisation, who integrates well into teams and is happy to experiment with different evidence-informed ways of working and approaches to teaching.

We currently have 63 students (36 in Year 12 and 27 in Year 13) and plan to grow to 160 students by September 2025, recruiting more teachers as the school grows.

Our staffing structure for next year is as follows:



Person specification: Teacher of Physics

Applicants must be eligible to work in the United Kingdom

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-levels or equivalent linked to some of the subjects delivered at ULMaS.	X		AP
Good honours degree in a STEM or closely related subject.		X	AP
Qualified Teacher Status/ Qualified Teacher Learning and Skills Status		X	AP
PGCE		X	AP
Experience			
Successful and recent teaching experience of high-attaining students aged 16-19.	X		AP, TL, R
Successful recent AS- and A2-level teaching in your primary STEM subject.	X		AP, TL, R
Successful experience in assisting department heads or subject leaders with curriculum development and course design.		X	AP, I
Experience of collaborating on curriculum development and course design.		X	AP, I
Expertise in analysing student data on a course by course basis.		X	AP, I
Success in preparing students for university entrance, including supporting UCAS applications		X	AP, I
A commitment to evidence-based CPD.		X	AP, I

Knowledge/Skills			
The ability to deliver physics teaching to university entrance standards.	X		AP, TL
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 create effective rapport and a constructive relationship with students and staff, both in and out of school and through a range of mediums including online lessons.	X		I, TL
Ability to create effective rapport with, and inspire the confidence of, external partners such as teachers at other schools, employers, and university departments.	X		AP, I
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, and an interest in conducting ongoing action research related to the outreach elements of the role.	X		I, TL
Knowledge of the needs of SEN(D) learners, especially those of learners who are not neurotypical.		X	AP, I
Personal Characteristics/Other Requirements			
Commitment to the educational vision and the mission of the University of Liverpool Maths 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 self-development	X		AP, I
Capacity to take initiative and to innovate	X		AP, I
Ability to work collaboratively with a variety of subject specialists inside school.	X		AP, I
Ability to work constructively with others outside the school	X		AP, I
Integrity and reliability	X		AP, I

Job description: Teacher of Physics

Post title	Teacher of Physics
Responsible to	Head of Physics

Role outline

Subject teachers will collaborate on the planning and delivery of the A Level course/s in their primary subject specialism, and will be accountable for all aspects of their learning, teaching and assessment as well as student outcomes in their classes.

They will be responsible for the delivery of a high quality and enriching curriculum, for ensuring the academic progress of students, promoting the subject more widely and encouraging the pursuit of university degrees and careers related to their subjects as well as supporting university and related applications. Furthermore, the successful applicant will be expected to plan, promote and deliver outreach courses to students across the Merseyside region, designing activities aimed at Key Stage 3, 4 and 5 students, including online learning. They will, when the need arises, 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

- To teach ULMaS students, maintaining outstanding standards of teaching and learning
- To deliver engaging and inclusive lessons and other activities as part of the school's Outreach Programme; this could involve working in other schools and delivering teaching online and in person to students from other schools.
- To be accountable for their student outcomes in all areas of the curriculum.
- To assist in developing a rich A level curriculum as well as a programme of challenge and enrichment activities appropriate to a specialist mathematics school.
- To collaborate on and use well-structured and detailed Schemes of Work..
- To follow whole-school learning, teaching and assessment strategies and policies.
- To organise and prepare interim assessments in line with school policy.
- To analyse internal assessment results, reflect carefully and critically on learning and teaching strategies in light of these, and make changes where appropriate with the support of the Head of Department.
- To plan and implement intervention strategies for students who are not making sufficient progress in the subject.
- To attend and participate in meetings planned by the relevant Heads of Department.
- To collaborate on the provision of internal and external CPD, and to contribute to subject and outreach specific professional development in learning, teaching and assessment.
- To undertake any feedback or additional professional development to ensure they are teaching excellent lessons.
- To attend meetings where appropriate between tutors and parents / carers and / or to provide any information required for such meetings.
- To provide good quality advice about the Higher Education options in their subject and related courses.
- To understand in detail the expectations and processes of Oxbridge, Russell Group universities and Sutton Trust top 30 universities around selective admission to their subject and related courses.

- To develop and implement a detailed and developmental programme of preparation and support for students applying to read related subjects 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 explain and present their subject at ULMAS Open Events.
- To work with the Head of Outreach to develop a package of activities to enrich the learning of students in the Merseyside area.

Other responsibilities:

- To take responsibility for the care, guidance and support and the academic monitoring of a tutor group, to include tracking and reporting on students' attendance and their academic, social and personal development.
- To contribute to a programme of after-school and lunchtime academic enrichment and extra-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.
- To contribute to the establishment and maintenance of a caring, positive, safe and stimulating environment for each student at ULMaS.
- To prioritise at all times the safety and well-being of the students by following the relevant school policies.
- To attend training days in reasonable proximity to the start or end of the ULMAS 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.

Safeguarding

The University of Liverpool Maths School is committed to safeguarding the welfare and well-being of young people 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. Completion of a self-disclosure form will be required of applicants invited to interview.

The school's Child Protection and Safeguarding Policy is available [here](#).

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. A criminal record will only be taken into account for recruitment purposes where the conviction is relevant to the position being applied for, and even if 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).

Equal opportunities

The University of Liverpool Maths School is committed to enabling diversity in our staff body, in our governing body and in our pool of visiting speakers, who act as role models to our students. We will engender a positive culture of equality in all areas relating to staff including recruitment, performance management and pay, representation at all levels of leadership within the school. We therefore welcome applications from all suitably qualified candidates.

Applicants with disabilities

We 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 let us know so that we can ensure you have fair access to this opportunity.

How to apply

Applicants should complete the online application form through the TES website/ app.

The application should include a supporting statement explaining how the applicant's skills, qualifications and experience meet or exceed the requirements of the person specification. The statement should explain how your experience and skills meet the requirements of the person specification and what might make you different from other candidates. It should not exceed 1500 words but it does not need to be that long. Our advice is to focus on demonstrating how you meet the person specification, why you want to work in this school, and how you might stand out compared to other applicants. Candidates who do not offer evidence relating to the published person specification (above) will not be considered.

The closing date for applications is as described in the TES advertisement.

Interviews will be arranged with shortlisted candidates to fit with their current work commitments, as well as teaching and learning tasks and observations. We will contact you to discuss when an online first round interview would be convenient.

First-round interviews will take place on Zoom and these will be recorded for moderation purposes. Recordings will be deleted at the completion of the recruitment process.

Second round interviews will take place on the school premises and candidates will get ample opportunity to meet students and staff and experience the school at first hand; we recognise that you will need to be able to make an informed choice about whether this school is a good working environment for you.