

HIGHGATE

Teacher of Physics

September 2018



An able, well-qualified and inspiring teacher of Physics is required to join this very successful and innovative department. The successful candidate will be required to teach pupils throughout the school, from Year 7 to Year 13. This is an exciting opportunity for either an experienced classroom practitioner who enjoys the company of bright, ambitious and well-motivated pupils or someone wishing to gain experience of teaching in an academically selective secondary school; applicants with experience of secondary education will be at an advantage, but applicants from tertiary education will be considered. Recent experience of teaching examination classes or of examining at this level would be a recommendation; familiarity with IGCSE and A level will be essential. A proven interest in links between physics and technology or between physics and computer science would be an additional, welcome dimension. The successful candidates will be able and willing to contribute to the pastoral and co-curricular life of the school, both aspects of which are valued at Highgate.

The Department is well resourced and staffed. There are eight specialist teachers, with good technical assistance.

All pupils study Physics as a separate subject in Years 8 to 11 (a General Science course is taught in year 7, to which all three science departments contribute), ultimately following

the Edexcel IGCSE course with about three quarters of the cohort taking GCSEs in all three sciences at present. In 2017 92% of pupils taking IGCSE Physics achieved A* or A grades. At A level the AQA specification is taught. Standards of achievement in the Sixth Form are also high, with 76% A*/A in 2017. Several students apply to Oxford or Cambridge to read physics, natural sciences or engineering each year.



The department is located centrally within the school. There are three laboratories, a small lecture theatre, prep room and office. All teaching rooms are equipped with desktop PCs and 4k SMARTboards. Able and energetic technicians ensure that everything runs smoothly as well as designing new experiments.

The department takes a lead in organising the School's participation in events such as National Science and Engineering Week, and is

always keen to expand the learning experience through visits to establishments such as the National Physical Laboratory and CERN. Sixth-formers enter the Physics Olympiad, and competitions such as SciCast with IGCSE pupils, the Physics Challenge, and a thriving Physics Society meets on Thursday afternoons to hear talks on a variety of physics-related topics. In 2017 Highgate students were ranked number one globally in the Princeton University Physics competition, producing a research paper on Jupiter's moon, Io.

The School has in place DfE recognised arrangements for the Induction Year and the confirmation of NQT status and has considerable experience of and success in guiding entrants to the profession to qualified status. For all teachers new to Highgate, regardless of experience, there is a strong and supportive framework of induction to the School.

Teachers at Highgate enjoy a welcoming, comfortable and exceptionally well-resourced environment and are provided with significant assistance from a range of support staff. Salaries are competitive. The School pays the employer's contribution to the Teachers' Pension Scheme. Terms are shorter than in the maintained sector. Staff have free access to the School's sports facilities, including a swimming pool and a fitness suite.

Physics Outreach

Highgate's partnership scheme aims to offer enrichment classes for bright pupils in local schools; specialist teacher INSET; curriculum development and support for materials and experiments. Physics outreach is part of a much wider scheme to offer substantial opportunities for bright pupils in local schools interested in 'STEM' and in other subjects.

Links have been made with the staff and pupils of about ten maintained schools in the boroughs of Haringey, Camden, Islington, Newham and Brent. Work has focused on two areas: running extension sessions for able pupils, and providing CPD for teachers with a particular focus on developing their knowledge and experience of practicals that enhance learning – experiences which are so important for creating an interest in and understanding of the subject matter, but which are often withheld from pupils in schools where there is less equipment, or fewer Physics specialists.

For Sixth formers, we have two research based projects currently. Working with Queen Mary University, we are using Kepler telescope data to search for exoplanets, with students learning how to automate the task by writing code in Python. Whilst, in collaboration with UCL, we have a research project investigating the spectral lines that we hope to detect in the atmospheres of such exoplanets.

We have provided half-termly Saturday morning 'masterclass' sessions for over fifty Year 11 pupils which were aimed at raising aspiration and awareness with regard to physics and science in general. GCSE, A-level, BMAT, and British Physics Olympiad preparation classes were run on request at both Highgate and one of our newest partner schools, the London Academy of Excellence, Tottenham. Highly-successful competitive physics-based events have been run in the department for pupils in Years 8 and 12, and at a Year 12 Chrysalis conference, pupils were treated to talks on the physics of Brian Cox's The Wonders of Life, the search for Earth-like planets, and the weird world of quantum mechanics.



Our involvement in the support of colleagues in other schools, particularly those who may not have studied physics or a related subject at university, has been extensive, too.

The Head of Physics, Dr Anson Cheung (anson.cheung@highgateschool.org.uk), or the Head of Science, Dr Scott Crawford (scott.crawford@highgateschool.org.uk) will also be happy to answer any questions.

APPLICATION PROCEDURE

Please complete the on-line application form and attach a full curriculum vitae - including the names, addresses, telephone numbers and email contacts of two referees.

Closing date 8:00am on 5 March 2018 but applications will be considered as they are received.

Criteria for the post of Teacher of Physics

(to be read in conjunction with the details of the post)

1 Essential professional criteria

Criteria	How will these be tested or verified?
A good honours degree in Physics, or a related subject (eg Natural Sciences)	Original degree certificate(s) Questions about subject specialisation (and course content for more recent graduates) Opportunities at interview to discuss techniques for teaching set topics
Experience of teaching academic lessons, either as an employed teacher or during a teaching placement, and an understanding of effective assessment	A 50-minute lesson to be taught to a Key stage 3 or 4 class. Opportunity to comment on and grade pupils' written work
Excellent communication skills	Two panel interviews; lesson (as above)
The ability to use ICT fully in the teaching of Physics, or a willingness to learn the skills	Observed in the lesson Opportunities to recount experience and expertise at interview
The ability to establish good relations with colleagues and pupils.	Opportunities at interview to recount experiences where these skills have been demonstrated Questions which referees will be asked as part of the confidential reference request
Knowledge of, and sympathy with, fundamental British values	Questions to test this at interview
Awareness and understanding of safeguarding and welfare of children	Questions at interview to test attitudes towards and knowledge of children's safeguarding and welfare Questions which referees will be asked as part of the confidential reference request

2 Desirable professional criteria

Criteria	How will these be tested?
A teaching qualification (e.g. PGCE, GTP)	Original certificate
Experience of teaching successfully in an academically selective school	Questions which a referee from an academically selective school will be asked as part of the confidential reference request Verification of a candidate's employment history
A willingness to be involved in the wider life of the department (e.g. Societies, publications and outreach teaching)	Opportunities at interview to recount experience of running or participating in such activities or to give ideas for these

3. Person specification

Highgate seeks to appoint teachers who will have, in addition to the professional qualities outlined above, the following proven personal qualities, or the potential to develop them. At interview, candidates will have the opportunity to demonstrate or give an account of these attributes.

- The energy, dynamism and stamina to contribute broadly to the life of a busy co-educational independent day school
- Profound and continuing interest in the academic subject / s to be taught
- The ability to pitch lessons appropriately and adapt methods according to pupils' responses and class dynamic
- Willingness to contribute to the co-curricular life of the school
- Commitment to the school's work in partnership with other schools
- Understanding and observance of professional standards (dress, punctuality, confidentiality)
- Capacity for industry and initiative as part of a team ie. contribution to the work of a department
- Empathy with pupils across the age and ability spectrum at Highgate and the ability to relate to them
- Awareness and understanding of matters relating to the personal, social, health and emotional development of Highgate's pupils
- Knowledge and understanding of Child Protection issues and good practice (eg. professional obligations on safeguarding the welfare of children)
- Capacity to deal sensitively with problems raised by pupils, in line with Highgate's pastoral policies and sanctions system, working in partnership with Highgate's designated staff i/c pastoral care
- Ability to liaise and communicate effectively and professionally with parents
- Ability to see any issues that may arise with pupils, parents or colleagues from a variety of perspectives
- The ability to defuse difficult situations using different strategies such as careful listening, sensitive use of humour, praise and recognition where due, utilising the School's reward system
- Retention of a sense of perspective and, on occasion, the invaluable ability to laugh at oneself
- Willingness to seek out or to accept guidance or constructive criticism from line-managers