LOVE PHYSICS?

Pass on the passion. Teach.
The digital economy, the effects of climate change and the need for sustainable energy sources are just some of the reasons why physicists will play an increasingly essential role in years to come.

Specialist physics teachers are vital to help shape the minds of the next generation, who will be facing these new challenges and opportunities.

There has been an encouraging upturn in the number of young people choosing to study physics at A-level or Scottish Higher Level in recent years – but there is still a lot of work to do to change the tide of the last 30 years of low uptake.

The Institute of Physics promotes physics education at all levels. However, it is in school that a passion for physics is first born and needs to be nurtured most. With this in mind, we would like you to consider a career in teaching.

Read through this guide to find out what the benefits of a physics teaching career are – you will find out about training, funding and where to go for the most detailed information. We wish you the best of luck for the exciting future that lies ahead.

Prof. Sir Peter Knight
President of the Institute of Physics
Why teach?

Imagine a job where you are able to use your physics knowledge every day, in an inspiring and thought-provoking way... Or one where you have the freedom to organise your own work and are part of a collaborative team. There is so much more to teaching physics than the holidays and job security.

Teaching takes you back to where it all started – where you first discovered your passion for physics. We guarantee that you will make new discoveries and develop a deeper understanding of physics that you never thought possible, simply by expressing and communicating the subject in new ways. You will get to exploit your natural problem-solving skills and your creativity will flourish in each lesson that you deliver.

If you relish the prospect of inspiring young minds and a career in which you enjoy every single day, then you must begin the rewarding journey that is teaching.

Career opportunities

Once you are a qualified teacher, your career options remain very varied. As a physics teacher, you can gain seniority within the classroom or in a leadership role, depending on your interests and aptitudes. You could move up to gain responsibility for the physics department, become a head of year, or focus on special needs or pastoral care. There are special schemes to help leaders in education make rapid progression that you can investigate.

Starting salaries

As a qualified teacher, you will be paid on the basis of pay scales, which the government updates every September. You will start on the “main” pay scale and each year, subject to performance, you will move up a step. If your position and level of experience change, you will move to a new scale. A teacher qualifying this year would start working as a newly qualified teacher on £21,588 (inner London £27,000) a year.

1 September 2012 figure in England & Wales
Routes into teaching

Whether you are just starting out or you are looking for a new career there is a training course for you. You can study full or part-time and can start as an undergraduate or a graduate. An Initial Teacher Training (ITT) accredited course will lead to “qualified teacher status” (QTS) which enables you to teach in state-maintained schools. A typical ITT course will cover the principles of teaching, teacher observation and first-hand classroom and lab experience.

Undergraduates

If you don’t have a degree, you can:

- start a degree course that also gives you QTS; this takes four years, full-time. In the end you’ll receive a BEd or BSc with QTS\(^2\); or

- start a non-teaching degree and then enrol on a postgraduate ITT course.

Postgraduates

PGCE\(^3\)

The most popular of the postgraduate ITT routes is the university-based PGCE course. This takes one year of full-time study, is based at a Higher Education Institution (HEI) and includes around 24 weeks of placements in schools. On completion, you receive a PGCE. This course mainly focuses on developing your teaching skills, and not on the subject that you intend to teach. You can either choose a PGCE in physics, which will incorporate elements of biology and chemistry into your learning programme, or you can opt for a PGCE in physics with maths\(^4\), which will equip you to teach some mathematics in addition to physics.

\(^2\) Bachelor of Education or Bachelor of Science with Qualified Teacher Status  
\(^3\) Postgraduate Certificate in Education or Professional Certificate in Education  
\(^4\) Physics with maths PGCE courses only available in England
School-based training

School Direct, School Direct (Salaried) & SCITT

You can opt to spend all of your time training in a school by choosing a School Direct, SCITT or School Direct (Salaried) training route. As a School Direct participant a school will train you for a required role which is expected to lead to employment once qualified. School Direct (Salaried) is for graduates with three or more years of work experience who want to move into the classroom. You will be paid a salary as an unqualified teacher, will receive tailored training and will be employed once qualified. The SCITT programme is similar to the School Direct route but is designed and delivered by a group of neighbouring schools, enabling you to gain experience in more than one school.

Teach First

This charity recruits high-calibre individuals and matches them with schools in challenging circumstances where they teach for a minimum of two years. Trainees undergo a rigorous selection process before they are accepted onto the Leadership Development Programme, which involves teaching, achievement of a PGCE and wider leadership training. Participants are equipped with the skills to become effective teachers who can raise the achievement and aspirations of pupils. Find out more at www.teachfirst.org.uk.

Subject Knowledge Enhancement (SKE) courses

If your degree didn’t include sufficient physics to enrol on an ITT course straight away, you can take a Subject Knowledge Enhancement course, which will bring your physics up to scratch. You will need some experience of physics, usually to A-level standard. This could be through holding an A-level in physics, having an element of physics in your degree programme and/or occupational experience of the subject. These courses vary in length, depending on your needs, and are offered by many HEIs.

---

5. School-centred initial teacher training
6. Only available in England
School Experience Programme

Whichever training route you opt for, your ITT provider will expect you to have some recent school experience. This not only shows them that you are familiar with the current school environment, but should also confirm to you that you are making the right career decision. We can help to put you in touch with schools in your area that are willing to offer short-term school experience. Register your interest in our School Experience Programme at www.iop.org/sep. The Teaching Agency also offers a schools experience programme for eligible candidates. Go to www.education.gov.uk/teachsep.

Funding

If you are a UK or EU resident and choose a postgraduate ITT programme leading to QTS, you may be eligible for a tax-free bursary, the amount depends on your degree class and ranges from £12,000 to £20,000.

IOP Teacher Training Scholarship, worth £20,000 are available. These are prestigious awards available to outstanding applicants. Go to www.iop.org/scholarships for the full details.

How to apply

The application process differs depending on your chosen training route. Go to UCAS to apply for an undergraduate course and GTTR for PGCE and SCITT courses. School Direct applications are also made through a central portal, which can be accessed through the Teaching Agency. Please visit the websites detailed in the useful links section. Please note, even though physics teachers are in demand, it still pays to apply early.

If you’ve not already done so, we recommend that you register with the Teaching Agency who offers a Premier Plus service to all eligible registrants. This includes personal one-to-one advice and guidance on becoming a teacher, support with your application and much more.

Go to www.education.gov.uk/teachregister.

Candidates who want to teach physics who hold or are predicted at least a 2:1 degree, and who intend to start teacher training in the academic year 2013/14.
I graduated with a BSc in physics and then did an MSc in science communication, with the plan to get into science journalism and broadcasting. The work experience I did happened to involve working with young people and it was then that I realised this is what I particularly enjoyed. I did a PGCE last year, and am currently part way through my NQT eight year teaching as a physics specialist in a secondary school. The training so far has been challenging and time consuming, but extremely rewarding. The best part about teaching is the ‘penny drop’ moments, when you realise that you have helped your students to understand a new concept or achieve a new goal. It is humbling to know that you are really making a difference.

Become a Student Teacher Affiliate for free and access our Learning to Teach Physics programme. We will support you through your Initial Teacher Education, your NQT induction and beyond into your early years as a teacher. We offer you tried-and-tested resources, extensive teaching materials, advice on practical work plus newsletters and events designed especially for new teachers. You could also receive light-touch mentoring from experienced practitioners during your training and early years in the classroom as part of our Stimulating Physics Support (SPS) programme.

Pete’s story

I’m now in my fifth year of teaching and can honestly say changing career was the best decision I’ve ever made. I worked as an analyst in the financial sector for many years but redundancy six years ago gave me the opportunity to do something completely different. And teaching definitely is! I’ve always worked with young people, as I coach a local football team, but I wanted to get back to the real physics that I did at school and university. A teacher friend convinced me that there was no better way of doing this than teaching. I was worried that I’d forgotten some physics along the way so did a six-month Subject Knowledge Enhancement course before doing a PGCE in physics. Teaching ticks all the boxes, it’s creative, fun and I’m constantly learning more physics – plus I’m already a head of department so the career opportunities aren’t bad!

Betty’s story

I graduated with a BSc in physics and then did an MSc in science communication, with the plan to get into science journalism and broadcasting. The work experience I did happened to involve working with young people and it was then that I realised this is what I particularly enjoyed. I did a PGCE last year, and am currently part way through my NQT eight year teaching as a physics specialist in a secondary school. The training so far has been challenging and time consuming, but extremely rewarding. The best part about teaching is the ‘penny drop’ moments, when you realise that you have helped your students to understand a new concept or achieve a new goal. It is humbling to know that you are really making a difference.

How we help

Become a Student Teacher Affiliate for free and access our Learning to Teach Physics programme. We will support you through your Initial Teacher Education, your NQT induction and beyond into your early years as a teacher. We offer you tried-and-tested resources, extensive teaching materials, advice on practical work plus newsletters and events designed especially for new teachers. You could also receive light-touch mentoring from experienced practitioners during your training and early years in the classroom as part of our Stimulating Physics Support (SPS) programme.
If you think that physics teaching is the career for you, take a look at the following useful links.

www.education.gov.uk/teachphysics  The Teaching Agency
www.gttr.ac.uk  The Graduate Teacher Training Registry for graduate courses
www.ucas.ac.uk  The Universities and Colleges Admissions Service for undergraduate courses
www.teachfirst.org.uk  Teach First

Still have unanswered questions? E-mail us at teach@iop.org