TEACH PHYSICS
A GUIDE FOR ENGINEERING CAREER-CHANGERS
FOREWORD

For many young people physics is their introduction to engineering related understanding and skills. Their first insight into engineering may well be in the classroom and that is where talented teachers can make a difference.

As an engineer, I encourage you to consider a career in teaching physics in school. As a profession it is creative, diverse and challenging, but above all it is rewarding. You can use your knowledge and experiences every day to inspire the next generation of engineers and help address the UK’s growing need for engineering talent.

We’re pleased to be working with the Institute of Physics to highlight the option you have as a mechanical engineer to pursue a career in teaching. I am sure that engineers not only have the ability to excel in teaching, but they will also impact the choices their students then make for their own careers after leaving school.

Carolyn Griffiths
CEng FI MechE FREng
President
Institution of Mechanical Engineers

The UK needs 1.3 million new STEM professionals, including technicians, by 2024 (Engineering UK). Without them, businesses will not prosper and the UK will suffer. Yet, this can only be achieved if we tackle the immediate shortfall in physics teachers.

Specialist physics teachers have the power to develop the next Curie, Dyson or Newton. They play a vital role in the classroom – underpinning the global future of physics and engineering.

Encouraging more engineers to teach physics can only be a great thing. You will help reduce the shortage of physics teachers while offering pupils a practical perspective on physics.

Your experience in the engineering sector gives you the ideal background for the job. As well as your subject knowledge, your creativity and ability to solve problems will help you excel in the classroom.

We are sure that your physics teacher played a vital role in getting you where you are today. Now it’s your chance to do the same for future generations.

THE FUTURE OF PHYSICS AND ENGINEERING IS IN YOUR HANDS.
As an engineer, you will enjoy finding solutions to problems.

Every day in the classroom is challenging and different. You will rely on your creative skills to motivate and engage your students—and you will need to think on your feet to answer thought-provoking questions from the enquiring minds around you.

Teaching is a diverse, dynamic and hands-on career.

Your knowledge of applied physics will come into its own. You have the ability to relate the theory behind your lessons to real-life situations—further capturing the imagination of your students, and educating them about the world around us.

Benefit to yourself and others.

By sharing your passion for physics and demonstrating that it is one of the foundations of engineering, you will inspire future generations of physicists and engineers. In return, you will receive ongoing IOP support, a competitive salary, career progression opportunities and job satisfaction that’s hard to beat.

WHY TEACH?

YOUR REWARDS

The rewards of teaching extend far beyond the generous school holidays. While tax free funding packages and competitive salaries are an attraction, your biggest personal reward will come from the satisfaction of sharing in your students’ ‘light bulb’ moments.

Competitive salary
Newly qualified teachers in England start on a salary of at least £22,917. If you progress into a leadership role you have the potential to earn up to £67,305.

Find out more at getintoteaching.education.gov.uk

Career progression
Once you are a qualified teacher, your career options remain varied. As a physics teacher 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 also many opportunities beyond the classroom, from coaching a sports team to running a mechanics club.

Teaching enables you to use the strong leadership and management skills you may have already developed. These, along with communication and planning skills, will be strengthened from the moment you set foot in the classroom.

Challenge and satisfaction
It goes without saying that teaching can be challenging, but the benefits far outweigh the tough days. Few careers give you the opportunity to change young peoples’ lives for the better in the way that a teacher can.

For times when you need a little extra support, the IOP is here to help. Download our free teaching resources, speak to our mentors and attend our events to boost your confidence in the classroom.

“TEACHING IS ABOUT GOING BACK TO FINDING OUT ABOUT PHYSICS, AND GETTING PLEASURE FROM SEEING OTHERS DO THE SAME.”
TRAINING ROUTES

To teach in maintained schools in England, you need to achieve qualified teacher status (QTS) through an Initial Teacher Education (ITE) course. Routes into teaching are now more flexible than ever, making it easier for you to find a course that suits your needs. You can choose to study full- or part-time through a school-led or university-led route.

University-led training
University-led ITE typically takes one year of full-time study and leads to a Postgraduate Certificate in Education (PGCE). It is based at a Higher Education Institution (HEI) and includes around 24 weeks of placements in schools alongside seminars at your chosen HEI that focus on developing your teaching skills and understanding of the theory of education.

School-led training
Through school-led ITE you will learn on the job in a school or within a group of schools. There are currently three school-led training routes available:

1. School Direct
You will follow a tailored training programme that is designed to meet your requirements and the school’s needs. There is an expectation that you will be offered a job once you are qualified.

2. School Direct (salaried)
School Direct (salaried) is for individuals with at least three years of work experience who want to move into the classroom. You will be paid a salary as an unqualified teacher and will be employed by the school once qualified. As a career-changer, this might be your preferred route.

3. School-Centred Initial Teacher Training (SCITT)
Similar to the School Direct route, SCITT provides practical, hands-on training led by experienced, practising teachers based in their own school or at a school in their network.

OTHER ROUTES

Subject Knowledge Enhancement (SKE)
If your engineering degree didn’t include sufficient physics to enrol on an ITE course straight away, or you feel that your physics knowledge could do with a boost, you might be eligible for an SKE course. Your prospective training provider will assess your subject knowledge and advise whether or not you need to complete the course.

SKE courses vary in length, depending on your needs. You won’t need to pay tuition-fees and you will also receive a bursary.

Teach First
If you are looking for something a little different, contact 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. You will also join a Leadership Development Programme.

Find out more at teachfirst.org.uk.
As physics teachers are in high demand, the funding available to support you while you train is substantial. UK and EU residents could be eligible for a government bursary of up to £26,000 tax-free. The amount of bursary you will receive depends on your degree classification.

Outstanding prospective teachers could apply for a prestigious IOP Teacher Training Scholarship. Each scholarship provides £28,000 tax-free funding and a package of exclusive benefits including IOP membership, trips to science-related venues and plenty of networking opportunities.

Physics with Science
This is the most common training programme, which enables you to focus mainly on teaching physics, but also combines some biology and chemistry content.

Physics with Mathematics
The biology and chemistry content that would be included in a Physics with Science programme is replaced with maths.

As an engineer, the physics with mathematics training programme may be your preferred choice, enabling you to play to your strengths in both subjects.

TRAINING PROGRAMMES

FUNDING OPTIONS

Visitucas.com/teacher-training to search for training programmes.

It is important to remember that whichever training route and programme you choose, you will spend a minimum of 24 weeks in school developing your practical teaching skills and your ability to manage and plan lessons effectively.

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To be an IOP scholar you will need to have solid knowledge of school-level physics and the potential to become an inspirational physics teacher.

For more information and to apply, visitiop.org/scholarships.

Tuition-fees
Fees for ITE programmes are approximately £9,000. However, if you are entitled to a bursary or scholarship, you could use this towards the cost of your tuition-fees, or you could apply for a tuition-fee loan.

For more information about fees and funding, visitgetintoteaching.education.gov.uk.
It is vital to spend some time in a school observing physics lessons before you apply for teacher training.

Not only does school experience show that you are committed to the profession, it also helps you decide if teaching is the right career for you. This is particularly important if you are making the decision to change career entirely.

Our free School Experience Programme takes the hassle out of finding schools willing to offer you some observational experience. Register on our website and we will put you in touch with schools in your local area.

Find out more at iop.org/sep.

Applications for university-led and school-led teacher training are submitted online via UCAS Teacher Training.

There are two application windows – Apply 1 and Apply 2. In Apply 1, you can select up to three programme choices when you make your application. If you’re unsuccessful at this stage, you can move to Apply 2, where you make one choice at a time that will be considered by providers sequentially.

Even though physics teachers are in demand, it still pays to apply early. We urge all applicants to take advantage of the UCAS combined application system and, if applying for school-led training, to consider applying for the university-led route as well.

For full details and to apply, visit ucas.com/teacher-training.

“BY TEACHING PHYSICS YOU GET TO SEE THE RESULTS OF YOUR LABOURS IN HUMAN WAYS, RATHER THAN THROUGH BALANCE SHEETS AND QUARTERLY REPORTS.”
Find out more
Still have unanswered questions about physics teacher training? Get in touch.

Email: teach@iop.org
Phone: 020 7470 4959
Web: iop.org/engineerteach
Twitter: @PhysicsNews
Facebook: facebook.com/instituteofphysics

Useful links
The government’s teacher training website
getintoteaching.education.gov.uk

The Universities and Colleges Admissions Service (UCAS) for teacher training
ucas.com/teacher-training

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Registered charity number: 293851
Charity registered in Scotland: SC040092

This information applies to England. For teaching advice for Northern Ireland, Wales and Scotland, refer to the General Teaching Council for Northern Ireland, the General Teaching Council for Wales and the General Teaching Council for Scotland.

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