

# Work experience in Science and Engineering

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There are many positive reasons to gain some work experience before graduation, and relevant experience will impress future graduate employers. It is useful to be clear about why you want to get work experience, and this will help you to choose an appropriate option.

Try to think creatively about different ways to experience work and how they will benefit you. Whilst many jobs will require specific scientific experience, they may also require a range of general transferable skills, such as teamwork, communication, leadership, problem solving, project management and public engagement. These skills can be gained through a variety of work and volunteering roles and extra-curricular activities.

Start planning your experiences early in your course. Some people begin with company insight events and general experiences of work and volunteering towards the beginning of their course, and build on this to gain relevant experience before their final year.

If you feel you may have barriers to gaining work experience, please make an appointment to speak to a Careers Consultant about your particular circumstances.

## Ways to gain work experience

### Research internships

Some organisations provide funds to support summer vacation work in research laboratories. Whilst some opportunities are advertised widely and you can apply to them directly, others are offered by professional bodies that provide funding to support research projects, and you will need to approach a research supervisor to put in an application. Most of the science and engineering departments at the University of York offer summer vacation internships.

- [EPSRC undergraduate research bursary](#)

### Industrial placement

Many organisations offer one-year industrial placements for students enrolled on year in industry courses. Staff in your department will be able to advise you on how to research and apply for an appropriate placement. You can also search graduate vacancy websites, including [Handshake](#), [Gradcracker](#) and [Graduate Prospects](#). Recruitment usually begins in late summer/early autumn of the year before the placement is due to start.

If you are studying a science or engineering degree, and would like a placement year in an unrelated career area, you may be interested in the [Placement Year programme](#).

## Vacation Internships in Industry

Some organisations offer formal internships to undergraduates. They often require you to be in your second or penultimate year of study. Examples include RB, BAE Systems, AstraZeneca, Mars and Unilever. Opportunities may be available in a range of roles, from scientific and technical to more business-related functions. Some organisations attend our [autumn recruitment fairs](#), but few life science and pharmaceutical companies do, so it is best to search for opportunities through [Handshake](#) or to use external websites such as [Graduate Prospects](#) or go direct to company websites.

Below is a list of examples by subject area. Please be aware that this is to give some ideas and is not a comprehensive list.

## Any science or engineering discipline (including international opportunities)

- Research Internships in Science and Engineering (RISE) – [opportunities in Germany](#)
- [Nuffield Research Placements](#)

## Biology/ Chemistry/ Life Sciences

- [Society of Biology list of studentships](#) which cover a wide range of specialist fields
- Bioscience Careers blog includes a lot of [useful funding options](#)
- Biochemical Society - [summer vacation studentships](#) for society members
- [Amgen Scholars Europe Programme](#)
- [London Research Institute/Cancer Research](#) (part of the Francis Crick Institute)
- [Summer Research Programme](#) for Undergraduate Life Science Students (Lausanne)
- [Vienna Biocenter Summer School](#)
- [Zurich Biology Undergraduate Summer School](#)
- Royal Society of Chemistry – [science writing internship](#) for RSC members
- [Association of the British Pharmaceutical Industry](#) has a useful webpage where you can search for companies
- [Sector skills council](#) for the Chemicals, Pharmaceuticals, Nuclear, Life Sciences, Petroleum and Polymer Industries

## Physics/ Computer Science/ Electronic Engineering

- [BBC Technology internships](#)
- [CERN](#) promotes a range of opportunities for students
- [Diamond Light Source](#) research institution
- [Royal Academy of Engineering](#) internships
- [UK Electronics Skills Foundation](#)
- [Science & Technology Facilities Council](#) offer 4-12 week research internships at one of their research centres, which include the Rutherford Appleton Laboratory and the UK Astronomy Technology Centre
- [Particle Physics Research Centre](#) at Queen Mary University, London
- [British Antarctic Survey](#)
- [European Space Agency](#)
- [National Nuclear Laboratory](#)
- [Space Internship Network](#)
- [Space Research Centre](#), Leicester- undergraduate research opportunities

- [The Institute of Physics](#)' website includes information on gaining work experience, including vacancies
- [The International Association for the Exchange of Students for Technical Experience](#) (IAESTE) – international work experience opportunities
- [ISIS Neutron and Muon Source Summer Student Scheme](#)
- Physics students looking for physics-related work experience can also seek advice from the [White Rose Industrial Physics Academy](#) (WRIPA)

It is worth investigating alternative opportunities for gaining work experience and making speculative approaches to organisations. Some useful websites for searching for science and engineering organisations and opportunities are listed below:

- [Gradcracker](#) advertises work placements and graduate opportunities in science and technology
- [UK Science Park Association](#)

## Other options

### Student Internship Bureau (SIB)

The Student Internship Bureau (SIB) works with local organisations to develop project-based internships, exclusively for York students. **All projects are paid** and run part time during term time or full time in the summer vacation. Occasionally placements are 'virtual' and can be completed from any location. Find more information about the [Student Internship Bureau](#) and search for vacancies in [Handshake](#). Recently, organisations such as ARM, Cambridge Consultants, GSK, the Intellectual Property Office, Network Rail, Stockholm Environment Institute and renewable energy companies have offered internships.

### STEP Programme

Opportunities for undergraduates and graduates to undertake project placements with small and medium-sized businesses in the UK.

### Temporary Work

It may be possible to get a temporary position working in a lab. This may be at a basic level, but it will provide a good introduction to lab work, and demonstrate to future employers that you are familiar with the lab environment. Jobs might be advertised through [Universal Jobmatch](#), local newspapers and their associated websites or recruitment agencies. Use [www.agencycentral.co.uk/](http://www.agencycentral.co.uk/) or [www.rec.uk.com](http://www.rec.uk.com) to locate agencies which specialise in scientific and technical recruitment and see our information sheet about *Finding Science Jobs*.

### Industrial project

Your degree course may involve a major project or dissertation. In some cases, companies set projects for students. This can be an opportunity for you to do work relevant to industry as part of your degree and to show an employer what you can do, because they will want to see the results.

## Speculative approaches

Not all opportunities are advertised – many students manage to find work experience, or shorter work shadowing opportunities, by contacting organisations directly. Use any contacts or networks you have to try to get informal experience. Let friends, family, tutors and neighbours know that you're looking for work experience. Use social media such as LinkedIn and Twitter to join interest groups, follow organisations and find contacts – see our information sheet on *Successful Networking* for tips. Attend careers events and conferences by learned societies such as the Society of Biology's Life Science careers conferences, IOP, WRIPA and RSC careers events.

See [York Profiles and Mentors](#) for employment profiles of previous students and graduates. You can contact many of the alumni for information and mentoring.

Search the web for organisations that work or do research into the areas which interest you. Keep a check on local news websites in the area you want to work in and set up Google Alerts. This will help you get to know about what is happening with local companies – are they expanding? Have they won new contracts? etc. Think broadly about the kinds of organisations that will seek scientists or engineers, for example in manufacturing, defence, food technology and production, engineering, brewing, utilities, environmental consultancies, test laboratories and more.

Approach organisations speculatively by phone, letter or email explaining how you can be of use to them for a short period of work experience and demonstrating your motivation and enthusiasm. Try to find a named contact – a technical manager or laboratory manager rather than a general approach to a HR department. Book a Careers Advice appointment for advice and feedback about this. This approach can be very successful, but may take a while to organise, and requires perseverance because you may need to approach a lot of people before getting a reply. Online directories such as [yell.com](#) can help you to find organisations in a specific geographical area.

[York Science Park](#) is a good starting point to find local organisations. The [UK Science Park Association](#) holds a directory of Science Parks throughout the country to enable you to find employers in other locations. . The following websites also allow you to carry out searches:

[UK Biotech](#) - directory of bioscience companies in the UK

[Labhoo](#) - database of life science related companies in the UK and beyond.

There are a number of considerations regarding unpaid work experience, which are highlighted on the [before you apply](#) page.

## Volunteering

Volunteering can be a good way to develop a wide range of skills that employers look for and to show motivation and commitment to your chosen career path. Opportunities can include working in schools and outreach events, IT projects or you could try scientific museums or environmental organisations. Some academics allow undergraduates to do voluntary research work with them.

There is a wide range of possibilities. Some specific examples include:

- [York Students in Schools](#) offers school-based placements and the opportunity to work on team projects alongside some of York's leading employers

- For other volunteering programmes run through careers and Placements, see the [Volunteering pages](#)
- The [Conservation Volunteers](#)
- [Centre for Alternative Technology](#)
- [Natural History Museum](#)
- [Science Museum](#)
- [Kew Gardens](#)
- [UK Association for Science & Discovery Centres](#) represents over 70 science and discovery centres and museums in the UK
- [WWF](#)
- [Engineers Without Borders](#)

Your department may be involved in outreach projects which you could join.

For more help and ideas have a look at the [volunteering](#) section of our website and search for opportunities via [Handshake](#).

## Make the most of your work experience

- Reflect on your experiences and record your main achievements
- Make a note of the names of key people within the organisation, and add these to your network for possible future opportunities or introductions – see if you can link to them on the professional networking site [LinkedIn](#)
- Ask whether you can spend some time in a different department to gain a broader insight
- Find out whether your manager would be prepared to be your referee
- Keep in touch after your placement, especially if you are considering applying for a permanent job.

## What else can you do?

Other activities available through the University can help you to develop relevant skills or gain an insight into specific career areas:

- **Competitions** Many industry organisations and employers run games events and competitions for students and participation can be a great way to showcase your skills and motivation
- **Enterprise**
  - Develop your entrepreneurial and creative skills through courses, workshops and competitions or bid for funding to develop your own business ideas
- **Attend our networking events and recruitment fairs.** These are open to all students and are an excellent way of finding out more about the sector you are interested in by talking to people already working in it – see the [What's on page](#) for details of forthcoming events
- **Update your profile** within [Handshake](#) and we will send you email alerts when opportunities matching your criteria are available
- Contact a York graduate through our [York profiles and mentors](#) and get advice and information direct from York alumni working in the profession you are interested in. Some alumni also offer mentoring opportunities

- Check whether your department has Twitter or LinkedIn careers pages

## Useful Careers and Placements resources

- [Job sector pages](#)
- [Information sheets](#)
- [Applying for jobs pages](#)

### Please note:

- The websites listed here are not intended to represent a comprehensive list. Careers and Placements cannot be held responsible for the content of external websites.
- Some internships offered in this sector may be unpaid. Before starting an internship you should be clear about the length of the internship, pay and conditions, what you will be expected to do, and what you will gain from the experience.