



# **LIFE SCIENCES SKILLS & TRAINING**

A Directory of Resources



**MEDCITY**



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# INTRODUCTION

Life sciences clusters and innovation districts can provide valuable training and skill-building to local communities, ultimately leading to jobs in the life sciences sector. Following on from the MedCity report [Community and Cluster Dynamics](#) on how life sciences clusters can enrich local communities, this directory identifies current resources and highlights opportunities for local communities to benefit from co-locating with the institutions and companies that anchor life sciences clusters.

## Why is life sciences skills & training so important?

The [Life Sciences 2030 Skills Strategy](#) report published by Science Industry Partnership in association with the UK Bioindustry Association (BIA) and The Association of the British Pharmaceutical Industry (ABPI) detailed that life sciences is a lucrative, growing sector with potential for creating around 133,000 jobs over the next 10 years. The report also highlighted skills like digital and computational, statistical literacy, leadership, and interdisciplinary working as essential to the sector's continued success.

## What is available?

This directory provides a catalogue of current life sciences skills and training resources and identifies opportunities where gaps exist. It is informed by over 51 meetings with a range of organisations within the life sciences sector, including multinational companies and SMEs, universities, funding bodies, further education colleges, councils, charities and non-profits, incubators, accelerators, innovation hubs, trade associations and the NHS, supplemented by desk research.

## How can we work together?

In addition to this directory – curating resources from across the ecosystem and identifying ways to enhance skills & training initiatives – we are working with councils and industry to advise, connect and catalyse more opportunities for local residents to gain skills attractive to the life sciences sector.

As the life sciences cluster organisation for London, MedCity is particularly focused on making the city an exemplar for community-based life sciences training, in order to support the growth of the sector. If you would like to learn more about our convening work or add a resource to our directory, please get in touch:

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# METHODOLOGY

MedCity conducted over 51 meetings with a range of organisations within the life sciences sector including industry, universities, funding bodies, further education colleges, councils, charities and non-profits, incubators, accelerators, innovations hubs, multinational companies, trade associations, and the NHS to scope out existing apprenticeships and training and outreach programmes. These interviews were conducted to help us identify the existing provisions, while assessing areas that can be improved. We have also conducted desk-based research to validate our parameters.

## Organisations Interviewed:

- Manchester Community Hub
- National Institute for Health and Care Research (NIHR)
- West London Alliance (WLA) and the Shaw Trust
- National Technician Development Centre (NTDC)
- Greater London Authority (GLA)
- STEM learning
- Tech She Can
- Barts Life Sciences
- MultiplAI
- City and Islington College
- BioIndustry Association (BIA)
- University of Birmingham
- Curenetics
- British Science Association (BSA)
- The Open University
- Health Foundry
- Centre of the Cell
- Imperial College Healthcare NHS Trust
- Askbio
- University College London (Division of Biosciences)
- Upstream
- The Association of the British Pharmaceutical Industry (ABPI)
- Cytoseek
- Leading Inclusive Futures through Technology (LIFT)
- South East Health Technologies Alliance (SEHTA)
- The Francis Crick Institute
- Higher Education Access Tracker (HEAT)
- Intelligent Lab on Fiber (iLoF)
- Cell Guidance Systems
- Quell Therapeutics
- Synnovis
- In2science
- Foundation for Education Development (FED)
- One Nucleus
- London Cancer Hub, Institute for Cancer Research and Sutton council
- Novartis UK
- Imperial College Outreach
- Barts Health NHS Trust
- Kings College London widening participation team
- Advanced Therapies Apprenticeship Community (ATAC)
- Pfizer UK
- London Bioscience Innovation Centre (LBIC)
- Guy's and St Thomas' NHS Foundation Trust
- Bayer
- LifeArc
- Medical Research Council (MRC)
- Royal Veterinary College (RVC)
- NHS Blood and Transplant Gene Therapy Hub
- Northeastern University



# DIRECTORY

## I. Job-Focused Training Programmes

The following list includes specific life-science programmes as well as those aimed at developing crossover skills. Many are London-based; some are UK-wide.

**LIFT** (Leading Inclusive Futures through Technology) is a three-year initiative bringing together Camden, Hackney, Islington, and Tower Hamlets councils to help residents from underrepresented backgrounds secure good local jobs in the knowledge economy including tech, digital, sciences, and creative production. It also supports businesses and start-ups in these sectors. An example is the lab technician apprenticeship scheme run with Queen Mary University of London.

**Greater London Authority** offers the following programmes to train and prepare adults in London for entry-level careers. They are currently focused on health and social care, green skills, and digital skills, with plans to include life sciences.



### Opportunity for industry engagement

The GLA is keen to work with life sciences and other tech employers to sign up to these programmes to offer entry level employment routes into life sciences.

- **Skills Academy Hubs** provide local training, work experience and advice and guidance in the green economy, creative industries, digital, health and hospitality sectors. Academy Hubs within the health sector currently operate in North-East London, South-West London, and North-West London.
- **Skills Bootcamps** aims to help Londoners aged 19+ to progress into work by giving them access to in-demand skills training and a guaranteed interview for a more sustainable, higher-skilled job and higher wages over time. Bootcamps run for up to 16 weeks and focus on higher level training (Level 3 – 5).
- **Adult Community Learning (ACL)** provides qualification-based courses, Maths, English and English to Speakers of Other Languages (ESOL) education and some apprenticeships delivered at local level. Learning may also include pre-employability training, for example the behaviours, attitudes and expectations required by London's employers.



- **No Wrong Door** offers skills development for Londoners disproportionately impacted by the pandemic, including disabled people, women, refugees, young Londoners and older Londoners. Delivered through four hubs led by London's four sub-regional partnerships: Central London Forward, Local London, South London Partnership and West London Alliance.

## Other Government Initiatives



### Opportunity for industry engagement

Government is keen to work with life sciences and other tech employers to sign up to these programmes to offer entry level employment routes into life sciences.

**Work and Health Programme** provides up to 21 months support for people who have been unemployed for 24 months or more or have long-term health conditions and/or disabilities. In London four sub-regional partnerships have their own Work and Health Programmes: Central London Forward, Local London, South London Partnership and the West London Alliance. The four Programmes are expected to support 50-55,000 individuals.

**CASE STUDY** West London Alliance (WLA), a public sector partnership between seven West London local authorities, delivers a Work and Health Programme in addition to the West London Boroughs' Employment Support Services (WLBESS), to help West London residents gain well-paid employment. The programme provides specialist support for the long term unemployed, inactive, and short-term unemployed with additional barriers to employment.

**Sector-based Work Academy Programmes** (SWAPs) assist those receiving unemployment benefits to apply for jobs in a new area of work through a six-week process that culminates in either a job interview or help with the application. The programme is designed to help improve job prospects, help employers fill jobs, as each SWAP is linked to one or more genuine job vacancy. Scotland offers a number of life sciences SWAPs (called the Scottish Wider Access Programme), but they are scarce in London.

**Job Entry Targeted Support** (JETS) provides rapid support to help people who lost their jobs during COVID to get back into work quickly. Participants have access to a range of job search resources and targeted support with job applications, vacancy matching, and developing presentation and communication skills.



## II. Alternatives to Traditional Qualifications

To create a diverse skills workforce in life sciences, quicker routes into entry-level careers are needed to supplement traditional educational routes. This section lists short modular courses, apprenticeships and vocational training courses specifically designed to address the skills shortage and encourage more people into science careers.

### Apprenticeships

Apprenticeships are structured training programmes that provide participants with a chance to gain a qualification while working and earning money. Apprenticeship levels range from 2 (GCSE equivalent) to 7 (Masters Degree), with options for all abilities and progression.

#### UK Government

The [government apprenticeship website](#) offers multiple apprenticeships within life sciences including laboratory scientist roles.

#### NHS

The NHS is one of the largest providers of employment-focused training for adults. Every NHS trust provides initiatives to help local people find training and employment. Visit the [NHS Health Careers website](#) for more information.

Here are some examples of training schemes offered by London NHS Trusts:

- **Barts Health Futures** is a learning hub within Newham College providing access to health and science courses, including T-levels and Apprenticeships, as well as careers advice to help understand the job prospects within life sciences. So far around 150 learners have enrolled with 80% progression to HEIs (higher education institutions) and 10% progression to employment.

**CASE STUDY Community Works for Health** programme is run by Barts Health NHS Trust to upskill residents over 16 in the boroughs of Newham, Tower Hamlets, Hackney, Waltham Forest, and City of London. After course completion, residents are registered with the Barts Health talent pool which gives access to ring-fenced vacancies within Barts Health NHS Trust in entry level healthcare positions such as, lab assistant, phlebotomist, and administrative roles. Residents also have the opportunity for a six-week work experience placement at one of the five Barts Health hospitals. In 2021-2022, this programme trained over 200 local people in pre-employment skills, organised 67 work placements, and placed 145 residents in jobs within the Trust.



- **Imperial College Healthcare NHS Trust** delivers a sponsored two-year UCAS entry nursing associate programme in partnership with Buckinghamshire New University, University of East London, and The Open University. The nursing associate role is a support role that bridges the gap between healthcare support workers and registered nurses.
- **Synnovis**, a partnership between SYNLAB UK & Ireland, Guy's and St Thomas' NHS Foundation Trust, and King's College Hospital NHS Foundation Trust, is developing a 'hub' laboratory in London's SE1, which will provide access to improved services and equipment for routine and specialist testing. The hub will host a fully equipped training centre offering learning and development opportunities in pathology.

Though the NHS offers apprenticeships and training opportunities, these roles are not easily accessible to local communities due to lack of awareness, navigation of NHS jobs websites and use of specific jargon. Imperial College Healthcare NHS Trust is working with the West London Alliance (WLA) and the charity Shaw Trust to overcome this barrier. Shaw Trust promotes roles within the NHS, making them more accessible to local talent in West London by raising awareness of roles and helping applicants to understand job requirements. This strategy has helped them recruit several local talents.

## **Pharma industry apprenticeships**

Many pharma companies offer apprenticeship schemes in the UK. Here are some examples (click on the company name to go to the relevant apprenticeship website):

**Pfizer** runs an apprenticeship scheme (Level 2 – 7), in partnership with Cogent Skills. Apprenticeships last 1 to 5 years and are offered for the following roles – Science Technician, Laboratory Scientist, and Manufacturing Technician as well as non-life-science based roles such as within business development and marketing.

**AstraZeneca**'s apprenticeship programme for secondary school students offers an alternative to the traditional route to achieve a degree or qualification, while earning a salary and gaining hands-on experience.

**UCB**'s Student Apprenticeship Programme UK is run in partnership with Cogent Skills and offers a range of apprenticeships across the Science and Business disciplines.

**GSK** apprenticeships are offered at multiple locations across the UK with all fees covered.

**MSD** offers a 24-month apprenticeship programme.





## Advanced Therapies Apprenticeships

**Advanced Therapies Apprenticeship Community** (ATAC) is the first apprenticeship programme designed specifically to train and upskill individuals in developing, manufacturing, and delivering innovative therapies at scale. Established by the Cell and Gene Therapy Catapult (CGT Catapult) the programme offers apprenticeships in partnership with 50 employers in London and across the UK.

**Advanced Therapies Skills Training Network** (ATSTN) assists in upskilling and cross-skilling to support sector growth in advanced therapies. The ATSTN has a cohort of National Training Centres which provide onsite training in specific areas for advanced therapies. The ATSTN also has a career converter tool that can match an individual's transferable skills to one of 16 key roles identified by the Skills Demand Survey as the most urgently needed by employers within the sector.

**Gene Therapy Hubs**, launched in 2023 by the Medical Research Council (MRC), LifeArc and the Biotechnology and Biological Sciences Research Council (BBSRC) advance promising research into new treatments for patients. Three dedicated facilities in London, Sheffield and Bristol will offer apprenticeships, short courses and Masters courses in gene therapies and viral vector manufacture.

## Other Resources

The **National Technician Development Centre** (NTDC) provides a range of resources giving visibility of, and support for, high-quality technical apprenticeships across the life sciences and other sectors. The NTDC work with universities to help develop apprentice roles and inform universities how they can advertise these on the government apprenticeship website. The University of Birmingham, for example, has successfully implemented several apprenticeships for technicians within life sciences.

The **Royal Society of Biology** provides information on education, training, apprenticeships, and certifications in life sciences.

Other websites detailing life sciences apprenticeships:

**National Apprenticeship Service**

**Wellcome - Apprenticeship Programme**  
**Science Council**

**Apprenticeships.scot**

**Amazing Apprenticeships**

**Institute for Apprenticeships and Technical Education**

**World Skills UK**



## Supported Internships

Supported Internships are structured programmes where young people spend 10 months at a host employer gaining an employability qualification and work experience in real jobs. They are partnerships between employers, schools and colleges, supported employment providers and local authorities.

**NHS Learning Disability Employment Programme** delivers Project Search and Project Choice, which provide internships for young adults across numerous NHS sites.

**West London Alliance Supported Employment Programme** co-ordinates Supported Internships for young people with Special Education Needs and Disabilities (SEND). They have over 33 programmes with various NHS trusts.

## Technical Qualifications

**T Levels** are new 2-year courses taken after GCSEs and are broadly equivalent in scope to 3 A Levels. T Level courses cover 11 skill areas, including health, healthcare science and science, incorporating an industry placement. Imperial College Healthcare NHS Trust and LifeArc are two of the sector organisations providing Life Sciences T level programmes.

**Higher Technical Qualifications (HTQs)** are technical qualifications delivered by industry experts as alternatives to apprenticeships and degrees. These qualifications are new or existing level 4 and 5 qualifications that sit between A levels or T Levels and degrees. HTQ courses are currently being taught in a variety of digital occupations and by 2025, they will be available across a wide range of sectors including health and science. From September 2023, HTQ courses are eligible for the higher education student finance offer on the same basis as degree courses.

## Qualifications offered by colleges and universities

Universities and colleges offer a range of short educational courses within life sciences. Most colleges also offer free short courses and qualifications, including courses at Level 3, that are job focused and widely recognized. Examples of the life sciences courses offered by the Open University and a few local London colleges are listed below:

**Open University (OU)** offers apprenticeships within life sciences such as the Nursing Associate Higher Apprenticeship. The OU also pioneered OpenSTEM Labs, including the OpenScience Laboratory and OpenHealth Laboratory, which are interactive online platforms for practical science engagement. This allows for remote access equipment, citizen science platforms and virtual scenarios such as virtual microscopes to support life sciences courses.



**Northeastern University London** offers a full range of learning opportunities in life sciences. Apprenticeships include the Bioscience Laboratory Scientist (degree) apprenticeship, Bioscience Technician Scientist apprenticeship, Data Scientist (Integrated Degree) apprenticeship, and Artificial Intelligence Data Specialist apprenticeships. Elements of these courses can be adapted into both accredited and non-accredited short courses to fit employer's needs.

**Centre for Applied Sciences** is part of the City and Islington College and offers vocational courses for 16–18-year-olds and adult learners specifically focused on applied sciences, including optics, animal management, sports science, forensic science, health, medical science, engineering, and public services. The centre also offers access to higher education courses such as medicine and medical biosciences and access to higher education diplomas to help students get the qualifications they need to study medicine, dentistry, or a medical related degree at university.



#### **Opportunity for industry engagement**

The Centre for Applied Sciences is also looking to work with employers within the life sciences field to build future courses relevant to future skills gaps and employer needs.

#### **Other Life Sciences Opportunities**

**Association of the British Pharmaceutical Industry** (ABPI) offers the ABPI Professional Examination for sales representatives enabling them to promote medicines.

**One Nucleus** has developed a range of training courses including 'Intro to' courses aimed at staff new to a role for example, the Introduction to Drug Development course. They also offer several compliance courses for technical roles.

**Barts Life Sciences** plans to open new physical and virtual learning hubs based on the Barts Health Futures model in East London boroughs. The hubs will provide advanced training in digital technologies and facilitate cross-borough engagement. They aim to develop a strategy to address and change educational and employment inequalities by skilling up local communities for non-entry level life sciences roles.



### III. Community Outreach Activities

Many universities offer outreach opportunities within life sciences for school children and young people within their local communities. These opportunities include educational resources, mentoring programmes, hands-on experience within research labs, summer schools and longer cohort programmes.

**The Francis Crick Institute** funds community engagement to encourage STEM learning. The Crick community chest fund aims to help improve health and wellbeing in the local area, build local capacity, raise awareness of the Crick and its mission, and embed the Crick's community engagement activity. So far, the Crick has supported 70 local projects which have benefitted more than 6,000 local people.

**STEM Learning** runs the STEM Ambassadors programme. Many life science organisations are members of the programme, volunteering to work with young people in schools to motivate the next generation to follow a STEM pathway. The programme aims to inspire young people from all backgrounds to explore STEM and consider the diverse range of careers in STEM, research and innovation.

**British Science Association** runs the CREST awards – projects that allow students of all ages to design and develop their own STEM projects. The BSA also runs **British Science Week** and a community scheme that grants £500 to community groups working directly with underrepresented communities to support them in running science activities during British Science Week. Between 2015 and 2020, the British Science Week Community Grant scheme has funded 675 projects in which 77,000 people have taken part.

**Tech She Can** is a charity that works to attract more women and girls into technological careers and change the ratio of women in tech. They have multiple initiatives aimed at school aged girls and boys. Tech She Can is also developing an inclusive and comprehensive UK-wide tech careers programme for women post-school age. The charity has established UK-wide partnerships with apprenticeship providers. All apprentices are guaranteed employment at a member organisation and are trained as 'Tech We Can Champions'. Tech She Can has also piloted a mechanism for member organisations to share their 'surplus' or unused apprenticeship levy, repurposing it specifically to fund tech apprenticeships within their smaller or third-sector members.

**In2scienceUK** is a social mobility charity that aims to provide young people from low-income and disadvantaged backgrounds an opportunity to gain practical insights in the STEM sector, as well as the knowledge and confidence to progress to university across London and the UK. Each year In2scienceUK supports more than 500 students in STEM placement opportunities. To date, 75% of participants progress onto STEM degrees.



**Enthuse Partnership** STEM Learning is working with Astra Zeneca on a partnership to inspire primary school children to get excited about STEM subjects through fun projects.

**Bayer Baylab** is a purpose-built laboratory specifically designed to run free science-based workshops for school children aged 7-18. The workshops are closely aligned to the national curriculum and rooted in Bayer's mission as a life sciences business involved in health and agriculture.

**Imperial College London** houses two dedicated community education spaces. The Wohl Reach Out Lab (WROL), located at the South Kensington campus, is a teaching space for hands-on activities within STEM subjects. The Reach Out Makerspace is a state-of-the-art educational facility at Imperial's White City Campus. It is dedicated to hands-on activities aimed at engaging school children creatively in science, technology, engineering, and mathematics (STEM) subjects.

**Centre of the Cell** is the world's first science education centre located within working biomedical research laboratories at the Blizard institute in Queen Mary University of London, allowing the public to see active research and connect with researchers. Centre of the Cell includes two learning pods located within the research laboratories that run a range of educational initiatives which are detailed here.

**Community Lab** is a collaboration between Canterbury Christ Church University and Discovery Park with Pfizer as a lead supporter. The programme provides schools near Sandwich, Kent with access to an industrial laboratory.

**Novartis** supports an expeditionary science curriculum to connect Cambridge Public School science lessons with Novartis Institutes for BioMedical Research (NIBR) research activities.

## **Future Opportunities**

London's emerging and established life science innovation districts offer opportunities for building community engagement activities. Here are two examples:

**Paddington Life Sciences**, a life sciences district anchored by Imperial College Healthcare NHS Trust and centred around St Mary's Hospital, aims to maximise local and global benefits of the NHS, research, industry and community partnerships. The intention is that local communities will benefit, including providing training and employment opportunities.

**The London Cancer Hub** is a partnership between The Institute of Cancer Research, London, and the London Borough of Sutton, with the support of The Royal Marsden NHS Foundation Trust and the Greater London Authority. The development will offer more than 280,000 square metres of integrated life-science buildings with potential for integrating education and training in life sciences for local communities.



# RECOMMENDATIONS

## How can life sciences skills & training be made available more widely?

From more than 50 organisations surveyed, we summarise the following priorities:

**Raise career awareness:** 82% said there is need for defining and raising awareness of the breadth of careers in life sciences. It is important to help local communities understand types of available life sciences careers, career routes and transferable skills.

**Prioritise skills-based qualifications:** Industries should work together with local colleges and universities to design apprenticeships and vocational training programmes based on the future skills needs. Short modular courses can help people get into entry level jobs quicker than traditional qualifications routes.

**Convene industry and local institutions:** 100% of industry multinationals and SMEs interviewed are willing to work together with local councils and educational bodies to implement or improve education training and employability opportunities for local communities. However, they expressed a need for a liaison to connect and engage with the local community.

**Simplify the apprenticeship levy:** 80% of the SMEs are unaware of the apprenticeship levy and the remaining 20% are wary of using it due to the complicated legislation. Bigger organisations like the NHS and big pharma companies that use the apprenticeship levy would like more flexibility in how the levy funding is used to maximise the number of apprenticeships.

### ENQUIRIES

If you would like to know more about MedCity's work on life sciences cluster and community development, please get in touch: [medcitycomms@londonandpartners.com](mailto:medcitycomms@londonandpartners.com)

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