ATAC Advanced Therapies Apprenticeship Community

advancedtherapiesapprenticeships.co.uk
apprenticeshipsinfo@ct.catapult.org.uk

Introduction to Apprenticeships

Guide for Employers

Contents

Introduction

The double award-winning Advanced Therapies Apprenticeship Community (ATAC), coordinated by the Cell and Gene Therapy Catapult (CGT Catapult), is the first apprenticeship programme designed specifically to train and upskill individuals in developing, manufacturing and delivering innovative therapies at scale. Originally set up to focus on apprenticeships in cell and gene therapy development, the programme now also supports biologics, vaccines and more recently complex medicines such as RNA and oligonucleotides.

Advanced therapies and complex medicines have the potential to address significant and growing unmet healthcare needs, providing novel treatment options for a variety of conditions diseases. The UK is at the leading edge of this disruptive field and there is an opportunity to build a large-scale industry delivering significant health and economic benefits.

Underpinning the success of the industry and fuelling growth are the current and future skills needed to develop, manufacture and deliver these innovative therapies. As the industry grows and companies progress towards manufacturing and delivery, more new and unique skills are required than what is currently available – and recruitment and retention of these individuals is becoming increasingly challenging, limiting growth.

A workforce foresighting report (CGT Catapult's UK Cell and Gene Therapy Skills Demand Report 2023) has been published which identifies the skills necessary to enable the industry to adopt and leverage innovative technologies and enable better co-operation with the education and training systems. The report found that the industry faces barriers in manufacturing, quality control, and digital automation, requiring significant workforce upskilling. The Cell and Gene Therapy Catapult is working with industry, academia, and technology providers to address these critical capability gaps.

What are apprenticeships?

Apprenticeships are jobs which combine both practical on-the-job training and formal study. They operate as a partnership between the **apprentice**, their **employer**, and the **training provider**. You, as employer, cover the cost of the apprentice's training and salary, and in return the apprentice contributes effectively to your organisation, doing a **genuine job**, for the duration of the apprenticeship.

The idea is that all three parties pay something into the apprenticeship, and all three parties get something out of it in return:

Apprentice	**Pays in:** Their time, effort and talent to achieve in the apprenticeship, both academically with their training provider and vocationally through their job. **Gets out:** At least one[1] nationally recognised qualification, and good-quality work experience for the duration of their apprenticeship.
Employer	**Pays in:** The apprentice's salary, the cost of training[2], and the time and effort required to support an individual through their programme. **Gets out:** A qualified and occupationally competent professional, that understands how your business works.
Training provider	**Pays in:** The academic resources (both personnel and material) to deliver and assess the apprentice's academic programme. **Gets out:** The funding, and the prestige of having delivered a successful apprenticeship programme.

[1] All apprenticeships receive an IfATE Apprenticeship Certificate at the level of their apprenticeship, and additional qualifications are mandated as part of some apprenticeships (for example, the Level 6 Scientist apprenticeship has a mandated bachelor's degree in addition).
[2] Apprenticeships are funded predominantly by reclaiming tax (for larger employers), or through government subsidy (for smaller employer). This is discussed in more detail in the 'How are apprenticeships funded' section below.

The sole objective of an apprenticeship is to produce a fully competent employee in their chosen field. The idea being that, throughout the duration of the apprenticeship, your apprentice contributes positively to your organisation as an employee, while receiving formal training at a training provider selected by you.

To do this, an apprentice works towards an **occupational standard**. This is a list of knowledge, skills and behaviours (KSBs) that make a fully competent individual in a particular area. Almost every occupation you can imagine has an occupational standard, from the general (e.g. scientist) to the very niche (e.g. science industry plant and process engineer). The apprentice's formal academic training will take the lead in delivering the apprentice's knowledge, while their on-the-job activities will support this as well as help hone their skills and behaviours. By the time they complete their programme, your apprentice will be comfortably demonstrating all the knowledge, skills and behaviours outlined in their occupational standard.

How are apprenticeships funded?

Apprenticeships are largely funded through a tax, called the **apprenticeship levy** (soon to be broadened into the **skills and growth levy**, which we will just call the *levy* from here onwards), which levied on employers with an annual wage bill of £3million or more. This threshold refers to their UK-based workforce only – so companies that are globally large but with only a small workforce in the UK are unlikely to pay the levy. Organisations pay the levy at a rate of 0.5% of their wage bill above £3m monthly through PAYE.

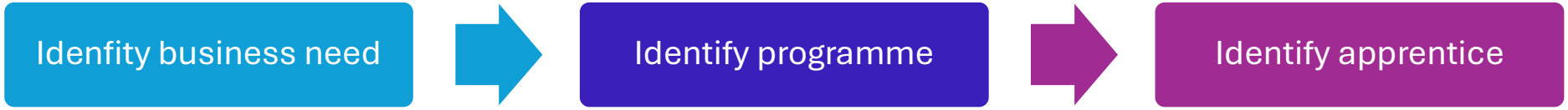
Before, however, each monthly levy payment goes to the treasury, it is held in a **levy pot** for two years during which time the company can reclaim these funds to spend on apprenticeship training. This means that, for levy-paying employers, your apprentice's formal training programme is cost-neutral to your business (though you will still be required to pay their salary).

If, like 98% of organisations in the country, your company does not reach the £3m threshold to pay the apprenticeship levy, the government has an alternative scheme for funding apprenticeships called **government-employer co-investment** (which we will simply refer to as *co-investment* going forward). This is where the government will pay 95% of the apprentice's training costs and ask that you pay the remaining 5% (as well as the apprentice's salary). If your organisation has less than 50 employees at the time your apprentice starts, the government will waive that last 5% and pay the full cost of training – this is the **government waiver**.

If your organisation is levy-paying, but you exhaust all the funds in your levy pot before your apprentice completes, you will switch automatically to co-investment and the government will pay 95% of the outstanding costs. If you subsequently replenish your levy funds while your apprentice is on-programme, any apprentice being funded through co-investment will continue to be so. Only new apprentices that you enrol onto a programme will be funded using your replenished levy funds.

How to get started

Because your apprentice will need to be doing a genuine job, it is best to work first by identifying your business need, then by identifying an apprenticeship programme that could meet that business need, and finally by identifying an apprentice.



Once you've identified a business need, ATAC can work with you to identify how your business need can be met through apprenticeships. Please take a look at our **programme guide** at the end of this document for a brief overview of all ATAC-recommended programmes as this will help you to visualise the areas in which employers in the industry are using apprenticeships. If you don't see an ATAC recommended programme that aligns with your business needs, please do reach out to us to discuss apprenticeships beyond our regular offering.

Now, of course, it doesn't always work in the order listed above. Indeed, you may already have a member of your team in-mind when exploring apprenticeship options. We are happy to take you through the process in a way that makes sense to you and your business's current needs.

Get in touch with apprenticeshipsinfo@ct.catapult.org.uk at any time and one of our team will gladly talk to you.

Programme guide

Core science pathway

The core science pathway is focused on training and developing technicians and scientists. Geared towards early careers, these programmes take individuals with (Level 5 and 6) or without (Level 3) existing relevant A-Level or BTEC qualifications and provide them with valuable initial training to start a scientific career.

The programmes are designed to offer a clear pathway to professional competency, with each level building an amount of expertise to allow for clear progression onto a higher level. An apprentice that successfully completes a Level 3 Laboratory Technician apprenticeship is permitted automatic entry onto either the Level 5 Technician Scientist or Level 6 Scientist apprenticeship, depending on your business needs. We would normally recommend progressing directly onto the Level 6, but the Level 5 can be used as an intermediate step if your organisation wishes to use it. An apprentice that successfully completes the Level 5 Technician Scientist apprenticeship may complete a much-reduced version of the Level 6 Scientist apprenticeship.

Programme and level	ATAC training provider	Duration	Qualifications earned	Description
Level 3 Laboratory Technician	CSR Scientific Training	24 months	Level 3 apprenticeship certificate BTEC Level 3 Diploma in a relevant subject	Carry out both routine and one-off laboratory testing (and manufacturing where relevant) and perform a variety of technical support functions across the organisation.
Level 5 Technician Scientist	University of Kent	39-45 months	Level 5 apprenticeship certificate FdSc Applied Bioscience	Carry out established laboratory-based investigations and scientific experimentation using bench and instrumentation techniques.
Level 6 Scientist (ATMP route)	University of Kent	60 months	Level 6 apprenticeship certificate BSc Applied Bioscience	Design complex and sustainable scientific investigations and lead on the development of work plans as well as completing scientific procedures using standard and specialist equipment and instrumentation.
Level 6 Scientist	Manchester Metropolitan University	54 months	Level 6 apprenticeship certificate BSc Bioscience	Design complex and sustainable scientific investigations and lead on the development of work plans as well as completing scientific procedures using standard and specialist equipment and instrumentation.

Data and automation pathway

The data and automation pathway provides an integrated journey from Level 3 to Level 6. Each programme at a specific level is designed to end where the programme one level higher begins. For example, apprentices successfully completing Level 4 Data Analyst are then able to progress seamlessly onto the Level 5 Data Engineer programme, provided they and their employer are in the position to support it.

If you have an individual interested in one of these data programmes but you do not know what level to bring them in at, ATAC can discuss their prior experience and expertise with them and make a recommendation as to where in the pathway they should join.

Programme and level	ATAC training provider	Duration	Qualifications earned	Description
Level 3 Data Citizen	Cambridge Spark	13 months	Level 3 apprenticeship certificate	Source, format and present data securely in a relevant way for analysis using basic methods. Communicate outcomes appropriate to the audience, analyse structured and unstructured data to support business outcomes, and blend data from multiple sources as directed and apply legal and ethical principles when manipulating data.
Level 4 Data Analyst	Cambridge Spark	14 months	Level 4 apprenticeship certificate	Conduct requirement-gathering, inspect, cleanse, transform and model data with the goal of discovering useful information, informing conclusions and supporting decision-making.
Level 5 Data Engineer	Cambridge Spark	15 months	Level 5 apprenticeship certificate	Build systems that collect, manage, and convert data into usable information for data scientists, data analysts and business intelligence analysts to interpret.
Level 6 Data Scientist	Anglia Ruskin University	48 months	Level 6 apprenticeship certificate BSc Data Science	Find information in diverse datasets to address complex problems and improve organisational processes. Make recommendations to inform strategic and operational decision making through sourcing, accessing and manipulating data, and engineering data processes.
Level 6 Machine Learning/AI Engineer	BPP Education	36 months	Level 6 apprenticeship certificate BSc Data Science	

Management and leadership pathway

The management and leadership pathway is geared towards individuals looking to upskill. Most ATAC management and leadership apprentices are individuals that have specialist expertise in a scientific area and are using an apprenticeship to provide them with robust managerial skills and techniques as they move into a managerial, supervisory or leadership role for the first time. In addition to the two programmes listed below, there are many more management and leadership apprenticeship programmes that may well be suitable for your employee, depending on their level of experience and prior qualifications. We can discuss this with you and make recommendations accordingly.

Programme and level	ATAC training provider	Duration	Qualifications earned	Description
Team Leader	Smart Training and Recruitment	18 months	Level 3 Apprenticeship Certificate	Provides leadership with operational and project responsibilities. Team leaders manage individuals, teams, or elements of a project, offering direction, instructions, and guidance to achieve set goals.
Chartered Manager	Manchester Metropolitan University, Exeter University	48 months (or 24 months for Fast-Track option)	Level 6 Apprenticeship Certificate Relevant bachelor's degree in management	Takes responsibility for people, projects, operations and/or services to deliver long term organisational success, with the professional recognition of their ability to deliver impact, behave ethically and demonstrate their commitment to continual learning and development.

Production and manufacturing pathway

The production and manufacturing pathway offers entry points for individuals at every point in their career. The Level 3 and Level 6 offer entry for those that already have (Level 6) or do not yet have (Level 3) relevant A-Level or BTEC qualifications.

The Level 4 Process Leader is geared towards individuals that are already involved in production activities but are moving into a role with greater responsibility, usually involving the oversight of a large team.

Programme and level	ATAC training provider	Duration	Qualifications earned	Description
Level 3 Science Manufacturing Technician (Biotechnology manufacturing)	Cogent Skills	18-30 months	Level 3 apprenticeship certificate BTEC Level 3 Diploma in a relevant subject	Produce biological products such as proteins, antibodies, and DNA, typically using batch processing working in a controlled environment, such as a laboratory or clean room.
Level 4 Process Leader	Cogent Skills	18 months	Level 4 apprenticeship certificate	Undertake and direct production activities and operations and deliver against core production Key Performance Indicators (KPIs). Process leaders effectively lead and manage large teams as well as providing technical or specialist input and direction to their own team and to others.
Level 6 Science Industry Process and Plant Engineer	Teesside University	60 months	Level 6 apprenticeship certificate BSc Chemical Engineering	Involved in process design and manufacture of chemical, biological or science-based technology industrial or consumer products using solid, liquid and gaseous media. Apply knowledge of underlying engineering principles to implement and develop new processes or plant and to support product development; and work autonomously and as part of a wider scientific & engineering team.

Quality and improvement pathway

The quality and improvement pathway is focused on developing individuals to make improvements to the business's processes, ensure effective compliance with regulatory requirements and manage organisational change. This pathway is geared towards existing employees that you are seeking to upskill or re-skill, and entry requirements onto the Level 4 Quality Practitioner and Level 5 Improvement Specialist programmes are largely influenced by the employer. Successful completion of the Level 5 Improvement Specialist apprenticeship results in automatic eligibility to progress onto the Level 6 Improvement Leader apprenticeship.

Programme and level	ATAC training provider	Duration	Qualifications earned	Description
Level 4 Quality Practitioner	CSR Scientific Training	18-24 months	Level 4 apprenticeship certificate	Deploy effective quality practices in your responsible area to ensure your organisation fulfils the contractual and regulatory requirements of their customers and other stakeholders.
Level 5 Improvement Specialist	Capella	14-20 months	Level 5 apprenticeship certificate	Responsible for leading the deployment of improvement strategy, for training others and for providing broad and deep technical expertise in advanced and complex Lean and Six Sigma, Project and Change Management principles and tools to enable identification and delivery of improvement opportunities aligned to key business goals.
Level 6 Improvement Leader	Capella	18-24 months	Level 6 apprenticeship certificate	Responsible for developing improvement strategy, providing leadership in improvement for the business and for coaching and supporting Improvement Specialists in advanced analysis.

ATAC

Advanced Therapies
Apprenticeship Community

Cell and Gene Therapy Catapult
12th Floor Tower Wing, Guy's Hospital, Great
Maze Pond, London, SE1 9RT
Telephone: +44 (0)20 3728 9500
Email: info@ct.catapult.org.uk
Website: ct.catapult,org,uk
LinkedIn: Cell and Gene Therapy Catapult

Coordinated by

CATAPULT
Cell and Gene Therapy