

Apprenticeships +

Laboratory Technician

Apprenticeship Level 3



**The
Sheffield
College**

4 Excellent Campuses
1000s of Opportunities
1 Incredible City



Quick Information

New Apprenticeship Standard designed by employers for employers

Sector

Engineering

Who is it for?

New or existing employees

Start date

Throughout the year

Level

Level 3

Duration

24 months

How does it work?

You will complete an NVQ qualification which will support the development of the knowledge, skills and behaviours required to achieve the standard.

Content

You will learn how to work safely in a laboratory environment, following quality procedures, producing reliable and accurate data and recording results.

Assessment

You will be assessed in the workplace using a variety of assessment methods such as observation, witness testimonies, learner statements etc.

Qualification

Level 3 Laboratory Technician standard

Additional qualifications

PAA/VQ-SET L3 NVQ Diploma in Laboratory and Associated Technical Activities

Review

This apprenticeship standard will be reviewed after three years

Laboratory Technician

This occupation is found in a wide range of organisations, including but not exclusively, chemical, primary and secondary pharmaceutical, biotechnology, formulated products, nuclear companies; and analytical science services, dental laboratories and educational establishments.

The broad purpose of the occupation is working at the forefront of technology to carry out both routine and one-off laboratory testing (and manufacturing where relevant) and perform a variety of technical support functions across the organisation.

In their daily work, an employee in this occupation interacts with the laboratory manager and colleagues, internal departments such as manufacturing, procurement and quality, internal customers such as medical staff, teaching staff and students, external suppliers and customers such as service engineers, delivery drivers, regulatory bodies and inspection teams e.g. HSE.

An employee in this occupation will be responsible for proactively finding solutions to problems and identifying areas for improving the business. Laboratory technicians are expected to work both individually and as part of a laboratory team. They are able to work with minimum supervision, taking responsibility for the quality and accuracy of their own work. In any context working safely and ethically is paramount and many companies operate under highly regulated conditions. Laboratory technicians therefore follow quality procedures to meet the requirements of quality standards relevant to their work. It is not a requirement, either to practise in this occupation or as part of this apprenticeship, for apprentices to achieve additional qualifications (other than the usual English and maths requirements for an apprenticeship at this level) or professional recognition. However, this apprenticeship standard has been carefully designed with some of the requirements of certain relevant professional bodies in mind. Apprentices and employers should speak to the professional bodies relevant to the industry or sector within which they are working to ascertain the additional requirements that must be met for professional recognition by these organisations. Recognition by those organisations will be dependent on the acquisition of learning as defined by them.



Key Areas of Study

XXXX

Typical job titles include: Laboratory technician, Laboratory assistant (prefixed by sector)

Occupation duties

Knowledge, Skills and Behaviours required, referenced in blue below each duty.

Duty 1

Work safely in a laboratory, maintaining excellent housekeeping whilst following appropriate safety, environment and risk management systems.

Knowledge – K6 K7 K8 K9 K10 K11 K22
Skills – S1 S2

Duty 2

Follow quality procedures to meet the requirements of quality standards relevant to the workplace.

Knowledge – K1 K5 K14 K15
Skills – S6 S9

Duty 3

Prepare for laboratory tasks using the appropriate scientific techniques, procedures and methods

Knowledge – K12 K13 K21
Skills – S3 S4 S5 S7

Duty 4

Perform laboratory tasks following specified methodologies, such as Standard Operating Procedures.

Knowledge – K1 K14
Skills – S7 S8
Behaviours – B2 B3 B4 B5

Duty 5

Use of specified instrumentation and laboratory equipment, including calibration where required.

Knowledge – K21 K22
Skills – S8 S9 S17

Duty 6

Produce reliable, accurate data and keep accurate records of laboratory work undertaken and results.

Knowledge – K2 K22
Skills – S10 S11 S12

Duty 7

Analyse, interpret and evaluate data and identify results requiring further investigation seeking advice of senior colleagues as appropriate.

Knowledge – K16 K17 K21
Skills – S17 S18 S19
Behaviours – B2 B3

Duty 8

Communicate scientific information appropriately, including the use of Laboratory Information Management systems, either digital or paper based.

Knowledge – K18
Skills – S10 S11 S15 S16
Behaviours – B1 B8

Duty 9

Apply scientific techniques for data presentation. e.g. statistics

Knowledge – K3
Skills – S12 S13 S15

Duty 10

Recognise problems and apply appropriate scientific methods to identify causes and achieve solutions.

Knowledge – K4 K17 K19
Skills – S14 S17 S18

Duty 11

Participate in continuous business performance improvement.

Knowledge – K5 K20
Skills – S18
Behaviours – B6 B7

Knowledge

- **K1:** How to ensure legal, regulatory and professional standards are maintained
- **K1:** The quality procedures to meet the requirements of quality standards relevant to the workplace.
- **K2:** How to safely store and handle data in line with national and international data protection and cyber security regulations that apply to the role and employer processes
- **K3:** How to apply statistical techniques for data processing and presentation. e.g calculation of median, standard deviation, produce graphs
- **K4:** How to recognise problems and apply appropriate scientific methods to identify causes and achieve solutions
- **K5:** The business environment in which the company operates including personal role within the organisation, ethical practice and codes of conduct
- **K6:** The foundations of health and safety including responsibility for health and safety under Health & Safety at Work Act(HASWA)
- **K7:** Risk assessment & control including Control of Substances Hazardous to Health assessments (COSHH) and Safety Data Sheets
- **K8:** Safe manual handling procedures including Display Screen Equipment (DSE)
- **K9:** Hazardous area classification & Dangerous Substances and Explosive Atmosphere Regulations (DSEAR) and how they apply within area of responsibility
- **K10:** Site and local safety (including fire and electrical), first aid and emergency management systems and procedures
- **K11:** Laboratory health and safety and compliance with legal, regulatory, ethical requirements including the management and control of laboratory waste and the handling and disposal of chemical substances
- **K12:** How to order and control stocks of laboratory materials where required
- **K13:** How to apply the concepts of resource efficiency to energy, water and waste in the workplace
- **K14:** Internal regulations pertinent to the sponsoring company & relative specialism in which they operate (eg. Good Laboratory Practice(GLP), Good Manufacturing Practice (GMP), Good Documentation Practice (GDP))
- **K15:** The external regulatory requirements pertinent to the sponsoring company & relative specialism in which they operate e.g. Medicines & Healthcare Regulation Authority (MHRA), Food and Drug Administration (FDA), Office for Nuclear Regulation (ONR)
- **K16:** The reason for laboratory investigations including out of specification results
- **K17:** Error reporting and correction techniques e.g. for traceability
- **K18:** The principles of Laboratory Information Management systems (digital or paper based)
- **K19:** The principles of root cause analysis
- **K20:** The key principles of continuous improvement and how workplace organisation techniques can be applied to improve workflow
- **K21:** Theoretical knowledge of named / recognised scientific subject appropriate to the workplace and sector e.g. such as found in the dental, pharmacology sectors
- **K22:** Scientific equipment management including maintenance e.g. cleaning, calibration, recognising equipment faults and when to escalate.

Skills

- **S1:** Comply with health and safety policies and procedures including HASWA, COSHH, risk assessments, use of personal protective equipment (PPE), manual handling, emergency procedures.
- **S2:** Maintain excellent housekeeping, in accordance with organisation Standard Procedures
- **S3:** Order and control stocks of laboratory materials where required
- **S4:** Identify, organise and use resources effectively to complete tasks applying the concepts of resource efficiency e.g. energy, water and waste
- **S5:** Adhere to internal and external regulatory requirements e.g. GLP, GMP, GDP
- **S6:** Prepare for, and perform, laboratory experiments, tests or tasks following any specified methodologies to provide reliable, accurate data e.g. weighing, pipetting, filtering, spectroscopic techniques, chromatography techniques
- **S7:** Demonstrate technical competence in the use of specified instruments and equipment
- **S8:** Report faults and seek diagnostic advice to maintain equipment in good working order, including calibration where required
- **S9:** Complete documentation proficiently
- **S10:** Keep accurate records of laboratory work undertaken and results
- **S11:** Contribute to the preparation of reports.
- **S12:** Use simple statistical techniques for data presentation and evaluation e.g. calculation of median and standard deviation, production of graphs
- **S13:** Demonstrate problem solving techniques including identification of sources of error and how they can be reduced e.g. human error
- **S14:** Use standard software packages and applications e.g. Microsoft Office suite
- **S15:** Use Laboratory Information Management systems to support their work
- **S16:** Address non-routine problems with samples and instrumentation, within defined areas
- **S17:** Identify relevant information from scientific sources e.g. supervisors, literature etc. in order to contribute to solutions
- **S18:** Participate in continuous performance improvement of systems and processes relevant to the work environment e.g. workplace organisation techniques, accreditation (e.g. ISO, UKAS) and proficiency testing.
- **S19:** Evaluate data, recognise and call attention to anomalous or unusual results

Behaviours

- **B1:** Effective communication using a range of skills
- **B2:** Effective teamwork
- **B3:** Ability to work independently and take responsibility for initiating and completing tasks in compliance with quality and safety standards, challenging unsafe working practices where appropriate.
- **B4:** An understanding of impact of their work on others, especially where related to diversity and equality
- **B5:** Time management and ability to complete work to agreed schedule
- **B6:** Ability to adapt to change
- **B7:** Continuing Professional Development (CPD): Accountability of own development needs, undertaking CPD.
- **B8:** Demonstrate reliability, integrity & respect for confidentiality on work related & personal matters

Qualifications

English & Maths

Apprentices without level 2 English and maths will need to achieve this level prior to taking the End-Point Assessment. For those with an education, health and care plan or a legacy statement, the apprenticeship's English and maths minimum requirement is Entry Level 3. A British Sign Language (BSL) qualification is an alternative to the English qualification for those whose primary language is BSL.

Professional Recognition

This standard has professional recognition.

Body

Completing this apprenticeship provides individuals with the opportunity for RSciTech registration as Registered Science Technician. However, prior to applying to RSciTech, apprentices need to achieve a relevant level 3 qualification or equivalent in addition to this Apprenticeship, and be a member of a relevant professional body.

Training, Tutoring and Assessment

This standard will be delivered in the workplace alongside your employer, preparing a training plan which ensures you get 20% off the job learning to help you develop your knowledge skills and behaviours. A portfolio will be produced to submit to the end point assessment organisation.

End Point Assessment

Portfolio of work

Behaviours log

Case study

SAT schedule

For more information on the assessment for the Senior Healthcare Worker Apprenticeship please see the full assessment plan in the Apprenticeship Standard documentation. We will arrange the End Point Assessment.

More Information

To find out more about the opportunities and financing of apprenticeships and to discuss your particular requirements, please email **apprenticeshipsandtraining@sheffcol.ac.uk** or call **0114 260 2600** to speak to one of our friendly employer advisors.

Get In Touch

Email

apprenticeshipsandtraining@sheffcol.ac.uk

Call

0114 260 2600

Twitter

[@sheffcol](https://twitter.com/sheffcol)

Facebook

facebook.com/thesheffieldcollege

LinkedIn

linkedin.com/company/the-sheffield-college



Why choose The Sheffield College?

As one of the region's largest providers of apprenticeships, The Sheffield College is more than just your local provider; we deliver the dedicated support you need to source, train and get the best out of your apprentice.

We appreciate how difficult and time consuming it can be to recruit suitable staff. That's why we will source, shortlist and prepare candidates before you meet them.

We help you get the best deal by finding the right funding and we handle the paperwork to make the process of arranging an apprenticeship training programme as smooth as possible. Our employer partnership team, apprenticeship tutors and assessment staff are experts, and we invest time and money in training and upskilling them regularly so their knowledge is up-to-date and industry standard.

At The Sheffield College we go above and beyond; we know that every business is different and we help to develop apprentices who will meet the needs of your business.