



TECHNICIAN SCIENTIST

Key information

Reference: ST0597

Version: 1.1

Level: 5

Typical duration to gateway: 36 months

Typical EPA period: 3 months

Maximum funding: £21000

Route: Health and science

Date updated: 03/04/2023

Approved for delivery: 7 August 2018

Lars code: 319

EQA provider: Ofqual

Example progression routes:

Laboratory scientist (degree),

Research scientist

Review: This apprenticeship standard will be reviewed after three years

Details of the occupational standard

Occupation summary

This occupation is found in a wide range of employers. The employers will typically operate in chemical, pharmaceutical, biotechnology, formulated products or analytical services. Employers can range in size, from large multinational organisations through to smaller businesses. Technician scientists may operate within a science department of a larger organisation or within a smaller science focussed business that provides science services. Technician scientists are typically laboratory-based.

The broad purpose of the occupation is to carry out established laboratory based investigations and scientific experimentation using bench and instrumentation techniques. A technician scientist will apply a range of skills and follow well established principles associated with their organisation's science and technology. They carry out routine lines of enquiry, development or investigation. They collect scientific information and analyse, interpret and evaluate data. They prepare results and provide progress updates of their work.

In their daily work, an employee in this occupation interacts with a wider scientific team, which may include laboratory scientists and laboratory technicians. They communicate information, arguments and analysis in a variety of forms to specialist and non-specialist audiences.

An employee in this occupation will be responsible for the quality of the work they undertake. They operate in settings where there is certainty and limited ambiguity. They take personal responsibility for decision making in predictable contexts. They work safely and ethically often under highly regulated conditions because of the need to control quality and safety of scientific products. They critically evaluate appropriateness of commonly used approaches to solve science problems, using a range of approaches to formulate evidence based responses to defined and

routine problems and issues within their area of work. They contribute to solutions to problems within the wider scientific team, using appropriate project management procedures. They perform record keeping and checks and use data capture systems relevant to the technical and scientific procedures that they use. They use their awareness of any research interests and the technical context and processes of the laboratory alongside senior team members to contribute to the proposal of new scientific ideas. They may manage resources within a clearly defined area.

Typical job titles include:

Analytical support chemist

Assistant scientist

Associate practitioner

Laboratory analyst

Laboratory assistant

Laboratory co-ordinator

Laboratory research assistant

Microbiology support scientist

Process development technologist

Quality control laboratory assistant

Senior laboratory technician

Technical laboratory assistant

Technical specialist (scientist)

Technical support scientist

Occupation duties

DUTY	KSBS
<p>Duty 1 Prepare for laboratory-based scientific investigations and experiments. Identifying appropriate scientific techniques, procedures, and methods to meet objectives (including environmental and risk management systems).</p>	<p>K1 K2 K4 K10 K12 S1 S2 B1 B4</p>
<p>Duty 2 Plan and perform laboratory-based scientific investigations and experiments using specialised techniques, following specified methodologies, and quality standards, and in accordance with relevant H&S procedures and wider regulation/ legislation.</p>	<p>K3 K5 K10 K11 K14 S1 S2 S4 S5 B1 B4</p>
<p>Duty 3 Use specified instrumentation and laboratory equipment. Calibrate and troubleshoot equipment where required.</p>	<p>K3 S3 B1 B4</p>
<p>Duty 4 Systematically collect and produce reliable and accurate information from scientific investigations and experiments and keep accurate records.</p>	<p>K6 K18 S5 S6 B1</p>
<p>Duty 5 Use data analysis tools to process or produce reliable analysis, interpretation, and evaluation of data.</p>	<p>K7 K9 K18 S6 S8 S9 B1</p>
<p>Duty 6 Collaborate with stakeholders and communicate scientific information.</p>	<p>K6 K15 K17 S10 S13 S14 S15 B2</p>
<p>Duty 7 Apply scientific techniques for data presentation to scientific and non-scientific audiences. e.g. statistics.</p>	<p>K6 K7 K17 S10</p>
<p>Duty 8 Recognise problems and apply appropriate scientific methods to identify causes and achieve solutions.</p>	<p>S13 B3 B5</p>
<p>Duty 9 Maintain knowledge of advances in scientific and sector working practices and participate in</p>	<p>K13 K15 K16 K19</p>

continuous business performance improvement.	S7 S12 S13 S14 S15 B2 B3 B5
Duty 10 Support, organise and manage personal workload and contributes to the development of staff in own area.	K8 K15 S11 S12 S14 S15 B6

KSBs

Knowledge

K1: Principles of laboratory techniques and scientific experimentation.

K2: How to apply the principles of laboratory techniques and scientific experimentation to contribute to the development of technical projects and the implementation of new processes.

K3: Laboratory equipment relevant to the role and the associated maintenance and calibration requirements.

K4: The key principles of scientific investigation relevant to the role (e.g. root cause analysis or out of specification results).

K5: Named and recognised scientific theory appropriate to the workplace and role (e.g. Chemistry, Physics or Life Sciences).

K6: The requirements and significance of reporting results, considering the importance of accuracy, precision, and recognising trends.

K7: Mathematical concepts and techniques relevant to the work role (e.g. basic statistical analysis, relating to sampling and data to evaluate results).

K8: The basic principles and procedures of project management and how to contribute to project plans with other team members (e.g. project timeline & milestones).

K9: Business requirements pertaining to record-keeping, traceability & confidentiality, and quality control systems.

K10: The internal and external regulatory environment pertinent to the work role and how to comply with regulations.

K11: The importance of operating ethically and sustainably, complying with codes of conduct, and the impact of this on business operations, the wider sector, society, and the environment.

K12: How the role impacts on the business and the environment in which it operates (e.g. idea creation, innovation, and enterprise).

K13: The importance of consulting reliable sources of information to keep up to date with scientific, role, or sector knowledge and ways to communicate this to team members.

K14: Health and safety and environmental regulations, procedures, documentation, and risk management systems applicable to the role.

K15: Importance of developing soft skills (people and interpersonal) relevant to the role.

K16: Different approaches and methods, for use in the identification, design, development, and implementation of solutions to technical problems.

K17: Techniques used to identify and manage stakeholder expectations including compliance with codes of conduct.

K18: The importance and impact of good record keeping.

K19: How digital technology enables the functionality of the working environment to be adaptable to change.

Skills

S1: Identify potential scientific techniques to meet defined objectives.

S2: Review and select appropriate scientific techniques to undertake required tasks (consider risk management, safe working practices, equipment availability, quality standards, the environment, and sustainability).

S3: Source and calibrate specified instrumentation and laboratory equipment.

S4: Plan and perform laboratory-based investigations and scientific experimentation using scientific techniques, procedures, and methods relevant to the role.

S5: Systematically obtain information when conducting scientific experiments.

S6: Record and store data in accordance with regulatory requirements.

S7: Contribute to the development or improvement of processes and methodologies and support their implementation into the business as part of a wider team.

S8: Use data analysis tools and software packages to process or produce reliable, accurate data or information.

S9: Interpret scientific data to inform actions or recommendations and escalate where required.

S10: Present the results of scientific work to scientific and non-scientific audiences in written and oral form.

S11: Plan and prioritise own tasks and complete work to schedule whilst maintaining compliance with internal and external requirements.

S12: Contribute to recommendations, improvements, or scientific solutions to meet the requirements of internal or external customers.

S13: Identify, develop or contribute to solutions to technical problems.

S14: Collaborate with stakeholders and identify results requiring further investigation or escalation.

S15: Keeps up to date with advances in scientific and sector working practices and technologies. Shares best practice across the team.

Behaviours

B1: Acts in a professional and ethical manner (demonstrates reliability, integrity, and respect for confidentiality).

B2: Acts in a way that builds and maintains positive relationships with stakeholders (takes account of the impact of own work on others, internally and externally).

B3: Committed to continuous professional development (handles and responds positively to change, adjusting to different conditions, technologies, situations, and environments).

B4: Committed to adopting safe working practices.

B5: Committed to the adoption of environmentally sustainable working practices.

B6: Resilient under pressure.

Qualifications

English and 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 partially aligns with the following professional recognition:

- Science Council for Registered Scientist (partial alignment)

The Science Council for Registered Scientist (RSci). Upon successful completion of the apprenticeship and upon receipt of the apprenticeship certificate, individuals are eligible to apply for RSci through a shortened application route. Individuals also need to be a member of a professional body that is licensed by the Science Council to be awarded this status and provide evidence of a relevant qualification at level 5 or above or demonstrate equivalence. Further information is on the Science Council's website.

Version log

Version	Change detail	Earliest start date	Latest start date	Latest end date
1.1	End-point assessment plan, standard and funding revised	01/04/2023	Not set	Not set
1.0	Approved for delivery	07/08/2018	31/03/2023	Not set

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