

**Trailblazer name**

Life Science & Industrial Science (Research Scientist)

**Trailblazer reference number**

TB0376

**Title of occupation**

Research Scientist L7

**UOS reference number**

ST0759

**Core and options**

No

**Level of occupation**

Level 7

**Route**

Health and Science

**Typical duration of apprenticeship**

30 months

**Target date for approval**

31 March 2019

**Resubmission**

No

**Occupational profile**

**This occupation is found in...**

a wide range of industries including Pharmaceutical, Clinical Trials, Personal Care, Analytical, Manufacturing, Water/Environmental, Energy, Agricultural, Food Science, FMCG, Petro-Chemical, Nuclear, Aerospace, Oil, Gas, Materials, Renewable, Bio medical, NHS, Diagnostics and MOD/Defense

**The broad purpose of the occupation is...**

someone who is primarily involved in planning, leading and conducting experiments and analysing results, either with a definite end use, for example to develop new products, processes or commercial applications, or to broaden scientific understanding in general. They provide scientific and technical leadership, giving a clear sense of purpose and driving strategic intent. They can expect to lead on business critical projects - managing the design and implementation of such projects both internally and externally, disseminating findings to internal and external stake-holders and making strategic recommendations based upon the

findings of the project. They take into account new scientific methods and breakthroughs, identifying longer-term opportunities and risks. They will be able to effectively collaborate with both industry and academia, working in multidisciplinary teams, to apply results of research and develop new techniques, products or practices. They are responsible for developing ethical, innovative research practices and programmes with the ability to deliver results. They are a role model, with responsibility for those in senior positions and significant organisational budgets

**In their daily work, an employee in this occupation interacts with...**

a wide range of individuals and teams. This is due to the varied work and leadership roles that the individual undertakes through their work. This means that these varied interactions require them to communicate across businesses and industries and lead on ensuring scientific information is communicated in efficient ways, examples of these varied interactions are; Internal - Direct Reports/teams, Project Teams, Line Managers, Senior Managers, Company Boards, Global Heads of Departments, Teams in other International Regions, Manufacturing Sites, Legal Teams, Sales and Marketing teams, Data Management, Securities Teams, Quality Control and Design Teams

Externals - Compliance, Legislation (court/legal) , Regulatory Bodies, Professional Bodies, Universities and Educational Bodies, Customers, External Partners, NGOs, Contract Research Organisations, Sector forums, Patient groups, Media, Technical Specialists, Suppliers and Sector skills councils,

The working environment may also be varied and change from day to day due to the diverse nature of the projects and work that the individual may be working on, but can include; Lab Based, Manufacturing Plants, Field based - External sites(out side), office based, home based, Customer sites, Conferences and education facilities

**An employee in this occupation will be responsible for...**

autonomously managing their own work programs and time while maintaining their own CPD and continuing to develop and update the knowledge and skills of others (coach develop/lead). They are responsible for direct line management of research teams or leading peer groups and collections of scientists in programs/experimentation's to achieve required goals. They report to senior level management/heads of functions while also being accountable for reporting to board members within the company, clients and research councils. They will be responsible for budgetary control of their projects and advising on wider company impacts of research around production costs and profitability of research results.

They will be responsible for managing different streams of work and leading on/designing and carrying out trails of process and procedures and Translation of science to action. Alongside also designing , developing, implementing and evaluating these business changes. The volumes and breath of this may vary due to the size of the organisation. With smaller companies also requiring their research scientists to be responsible for acquiring business through communication with customers and leading in this area

**Transferability**

*The Institute expects that being competent in the duties you have listed in this proposal will*

## Proposal to develop an apprenticeship standard L7: Research Scientist L7 (continued)

*mean that an individual will be able to undertake the occupation in all relevant types of employer. Please outline the steps you have taken to ensure that this will be the case.*

We have ensured that this apprenticeship standard reflects the skills required by all relevant employer types and occupations for this role by ensuring we have had a wide and diverse involvement in the process. This has included;

Involvement of a wide reaching cross section of employers from across different industries including Pharmaceutical, Manufacturing, Engineering, Oil and Gas, Chemical, Educational as well as others. As well as taking in to consideration the scale of the company from involving large companies as well as SMEs making sure the standard is suitable for all. These companies included; Croda, Astra Zeneca, Gluco, Dechra, Nufarm, Covance, Cellmark, Chiltern, GSK, Pfizer, Unilever ,AkzoNobel, Infineum, Interface Polymers, Lubrizol, Photocentric Ltd, Tata Steel.

We have also involved the Royal Biological Society, The Institute of Physics and The Royal Society of Chemistry to ensure that the program will meet the occupational competencies for these organisations at a chartered level ensuring that the skills will be relevant across a wide range of sectors. As well as ensuring that it meets the requirements out lined in job descriptions advertised for roles and meets the role specifications and requirements as out lined on online career sites such as prospects.ac.uk

### **Stand-alone occupation**

*Please confirm that the proposed apprenticeship relates to a stand-alone occupation and explain how it will fit in with any associated apprenticeship standards.*

This apprenticeship builds on the knowledge that is gain through the level 6 Laboratory Scientist and is a progression route from the level 6 program to a more senior role with more complex knowledge and abilities.

This apprenticeship fits in with the other life science apprenticeships that are currently being designed to further build on the options of pathways within the sector to ensure all roles are covered and builds on the lower level course to advance an individual into the Science professional knowledge area as outlined in the occupation map. How this apprenticeship fits in to the life sciences apprenticeship development is demonstrated on the attached document. We have spoken to the other Apprenticeship Standards groups and have mutually agreed where there is overlap with them on core aspects.

This apprenticeship is different in specialism and knowledge from the other level 7 programs being developed within the life science sector (clinical trials expert, bio bioinformatics, regulatory affairs). While they all operate in the science sector the knowledge and skills of the other specialist level 7 programs is different from the research scientist with their being a focus on very different task and knowledge areas reflecting the competent roles they cover. These programs and areas they cover where compared to this research scientist program and the roles it covers with clear gaps being visible between the pathways. With the specialist knowledge included in those pathways being irrelevant for the roles covered by this program and vice versa.

The research Scientist while containing similar communication and leadership references as that of the leadership and management apprenticeship programs it also includes a large amount of sector specific knowledge and so just completing a leadership and management

apprenticeship would not prepare an individual to be working at the required level within the science environment.

The health care science apprenticeship was also looked at and it was apparent that this apprenticeship standard did also not provide the required skills and specific science knowledge regarding conducting of research experiments and critical science advisory role as required by the roles upon completion of this program and was to focused upon a hospital/clinic environment and did not cover the additional industry sectors as needed by this standard.

Duty	Criteria for measuring performance	OTJ training (days)
Identify and implement change management initiatives to meet the demands of technical and organisational requirements.	successful and effective implementation of new process/procedures/policies etc.	10
Develop others through demonstration of best practice within the organisation by effective coaching, mentoring, teaching and training.	Development of competent and high performing teams through reviews.	10
provide leadership and specialist support and organise others in the work place to ensure projects meets the requirements of the organisational goals.	Leadership is demonstrated to a high standard through high performing teams and collaborations	12
Carry out all data handling, processing and analysis, ensuring integrity with consideration of commercial practices and guidance including documentation, reproducibility regulated process and IP.	Maintain up to date knowledge of internal and external policies regarding data.	14
make decisions based on an understanding of the organisational and the wider business market (e.g. legal, technical, environmental, political and economic).	Demonstration of business, process, product or policy improvements with positive impact to the wider business goals.	10
achieve goals in accordance with budget and finance targets and take account for financial implications within a wider commercial and organisational context.	Achieving goals to agreed budget, maximising organisation efficiency and enhancing ROI	12
advise on the development, critique and implement policies and protocols relating to health, safety, security and ethics.	Demonstration of continued improvement and adherence to policies, procedures and protocols.	8
effectively lead and manage communications (e.g. complex scientific information and organisational goals) with key stakeholders and other interested parties at all levels including specialist and non-specialist audiences, both internal and external to the organisation.	The information is communicated accurately, clearly and succinctly,	12
lead on the development of, and drive strategic plans within a scientific context and input to/suggest wider organisational strategy linked to their role.	Meet the key performance requirements linked to their role and wider department	8
develop new and existing products, services and methods for organisational needs (e.g. development of a new active ingredient or measurement methodology using new equipment).	Provision of scientifically sound recommendations advising the organisation on logical next steps.	25
Combine and compare data from diverse and complex sources (e.g. Literature, experimental data, external/internal contributors) to draw conclusions within a wider context.	Provision of scientifically sound conclusions advising the organisation on logical next steps.	22
lead experiments and ensuring that the appropriate processes are carried out.	The quality of the output, results, analysis and report.	20
Lead, ensure and be responsible for science based projects. Manage/support, plan, design the running of appropriate activities and make decisions for improvements and next steps.	Meet or exceed expectations of measurement against appropriate project benchmarks and specification, including regulation/legislation, finance, time scales, customer expectations and technical achievements.	18