

# apprenticeship FRAMEWORK

## Laboratory and Science Technicians (England)

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## Laboratory and Science Technicians (England)

Information on the Issuing Authority for this framework:

### **SEMTA**

The Apprenticeship sector for occupations in science, engineering and manufacturing technologies.

Issue number: 2	This framework includes:
Framework ID: FR00573	Level 2 Level 3
Date this framework is to be reviewed by: 01/03/2012	This framework is for use in: <b>England</b>

### Short description

Laboratory and science technicians cover a broad range of occupational roles from those who support scientists and engineers in research and development work to those who provide quality assurance or analytical science services. They can also be found in schools, colleges and universities supporting teachers of science and technical learning.

This framework is based on a previous framework for Laboratory Technicians jointly issued by Cogent and Semta. It is designed for laboratory and science technicians who carry out routine laboratory and science based operations and those involved in non-routine, more varied work activities such as planning, organising and leading technician support functions to assist scientists, educationalists and technologists in their work.

# Contact information

## Proposer of this framework

Semta and Cogent

## Developer of this framework

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# Revising a framework

## Contact details

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## Why this framework is being revised

This revised edition of the framework deals with some clarifications requested on PLTS and ERR evidencing and HE progression issues raised by NAS

## Summary of changes made to this framework

- Revision to PLTS and ERR evidencing
- Progression opportunities revised

## Qualifications removed

None

## Qualifications added

None

## Qualifications that have been extended

None

# Purpose of this framework

## Summary of the purpose of the framework

The contribution that good laboratory and science technicians could make to science companies operating in the United Kingdom is being hampered by the scarcity of people with the necessary practical and theoretical skills to be effective. Over the years employers have developed an increasing reliance on university graduates to fill these technician roles; this has been recognised as being neither cost effective nor sustainable.

In consultation with UK science employers Semta has (on behalf of other interested SSCs such as Cogent) scoped, designed and developed new suites of National Occupational Standards and related qualifications for technicians where there is a strong emerging market from employers.

This framework has been written as a shared framework between Semta who look after science, engineering and manufacturing and Cogent who cover chemicals, pharmaceuticals, nuclear, oil, gas, petroleum and polymer industries. It builds on Cogent and Semta's previous joint framework for laboratory technicians and has been written in response to significant interest by employers in the use of non-graduate technicians in these support roles. The framework is designed for laboratory and science technicians who carry out both routine and one-off laboratory testing and perform a variety of technical support functions to help scientists, technologists and others with their work. It is also for technicians who help teachers/lecturers in the delivery of science education.

The specific nature of each laboratory and science technician job role will vary according to the needs of the employer, but apprentices could work in the following areas: research and development, scientific analysis and testing or education and industry. Technicians are employed in a wide range of scientific fields that impact almost every aspect of our lives. They could be involved in helping to diagnose disease by supporting medical specialists in a hospital or health clinic environment or checking products in the food, drink or pharmaceutical industries. They are frequently called upon to set up equipment and experiments that support teachers and lecturers who teach biology, chemistry, physics and other scientific subjects.

The framework is designed to meet the needs of a broad range of employers and industries where laboratory and science technicians' roles are needed. Some key facts about these industries are given below:

Semta and Cogent research for the Pharmaceutical ( R&D) (SIC Code 24.4), Manufacture of Medical & Surgical equipment & orthopaedic appliances (SIC Code 33.10) and Science & Engineering R&D (SIC Code 73.10), shows there are:

- Approximately 191,000 employees and 6,500 employers across four nations (England 87%, Scotland 7%, Wales 4% & Northern Ireland 2%)

The following characteristics are anticipated (2010-2016):

- Increase of 15,000 people employed in the sector (1.3% average growth rates per annum)
- Net requirement for 50,000 people to cover employment growth and retirements within the sector
- Estimated net requirement of 9,300 associated professionals (technicians)
- Cogent research on the future of skills in the Life Science and Pharmaceuticals sectors (December 2009) found that the most critical and hard-to-fill occupations are those of a scientific and technical variety
- The industry absorbs 460 scientific graduates each year – mainly chemical and biological sciences, this reducing supply needs to be targeted at high level roles
- 45% of graduates are in occupations for which they are over-qualified, Semta research suggests many of these are working in technician roles

The HEaTED project found that there will be a significant demand for new laboratory and science technicians. These technician support roles are vital to schools, FE and HE teaching and learning in the UK. The demand for these new technicians is likely to number in the thousands over the next five to ten years.

Other sectors that are likely to benefit from this framework include:

- Chemicals
- Petro-chemicals
- Public and private health care
- Animal and marine science
- Nuclear
- Pharmaceuticals
- Waste disposal
- Mining, quarrying and extractives
- Building and construction support services
- Ecological/environmental science
- Metallurgy science
- Food science and hygiene
- Agriculture science

The framework provides employers and young people the opportunity to gain the skills and experience that are needed for a job as a laboratory technician or science technician role. It also enables/contributes to career progression including access to additional Further or Higher Education programmes/qualifications. For employers, the framework will provide a cost-effective process for increasing and sustaining the overall numbers of laboratory technicians.

## Aims and objectives of this framework (England)

The aim of this framework is to attract, retain and develop apprentices who wish to become laboratory technicians at Intermediate (Level 2) and Advanced (Level 3), more specifically:

- to contribute towards meeting the recruitment and retention issues faced by the sectors employers
- to provide a range of Laboratory and Science Technician pathways and job functions suitable for employers' requirements
- increase the technical capability of laboratory and science technicians in general
- encourage the participation of non-graduates in laboratory and science technician job roles
- increase retention among laboratory technicians and associated groups
- improve productivity and profitability (GVA per employee)
- increase the overall level of apprenticeship participation in the science sector
- help maintain diversity within the workforce

## Entry conditions for this framework

The science sector welcomes applicants from a range of diverse backgrounds and anticipates that applicants will have a wide range of experience, achievements and qualifications.

Employers would be interested in those applicants that:

- Have previous or work experience in the sector
- Are keen and motivated to work in a laboratory and scientific environment
- Are willing to undertake a course of training both on-the-job and off-the job and apply this learning in the workplace
- Have completed a Young Apprenticeship in Science or other related area
- Have successfully completed tests in basic numeracy, literacy, communication skills and spatial awareness
- Those who have completed functional or key skills or have equivalents

As a guide, the Laboratory and Science Technician Intermediate Apprenticeship is suitable for applicants who have five GCSEs grade D to E or above including Maths, English and a Science.

The Laboratory and Science Technician Advanced Apprenticeship is suitable for applicants who have five GCSEs grade C or above including Maths, English, and a Science. This is not a hard and fast rule but may vary according to the pathway chosen and the suitability of individual applicants.

The selection process on behalf of employers may include initial assessment activity where applicants will be asked if they have qualifications or experience that can be accredited against the requirements of the apprenticeship. The applicant may also be required to take tests in basic numeracy, literacy, communication skills and spatial awareness. There may also be an interview to ensure potential apprentices have selected the right occupational sector to meet their needs and expectations and those of their employer.

To avoid the need to repeat qualifications processes exist to make sure that applicants with prior knowledge, qualifications and or experience are not disadvantaged by having to repeat learning. Colleges, Training providers and Awarding Organisations will be able to advise entrants on the current rules for accrediting prior learning and recognising prior experience.

An Intermediate (Level 2) Apprenticeship and Advanced (Level 3) Apprenticeship framework must specify that an apprentice must achieve (or have achieved) Functional Skills/GCSE (with enhanced functional content) or Key Skills, these are listed under Transferable Skills in this framework document.

### **Knowledge qualifications:**

If applicants already have one of the Intermediate (Level 2) or Advanced (Level 3) Knowledge Qualifications before starting their apprenticeship (see knowledge qualifications), they can count this and do not have to repeat the qualification, providing that they have achieved this qualification within five years of starting the apprenticeship. The hours they spent gaining the qualification will also count towards the minimum hours required for this framework.

### **Initial Assessment:**

Colleges, Training providers and employers will use initial assessment to ensure that applicants have a fair opportunity to demonstrate their ability, and to tailor programmes to meet individual needs whilst recognising prior qualifications and experience.

## Level 2

Title for this framework at level 2

# Intermediate Apprenticeship for Laboratory and Science Technicians

### Pathways for this framework at level 2

- Pathway 1: Laboratory and Associated Technical Activities (Education Science)
- Pathway 2: Laboratory and Associated Technical Activities (Industrial Science)
- Pathway 3: Laboratory Science (Compound Analysis)
- Pathway 4: Laboratory Science (Clinical Analysis)

## Level 2, Pathway 1: Laboratory and Associated Technical Activities (Education Science)

### Description of this pathway

Laboratory and Associated Technical Activities (Education Science) Total minimum credit value = 63 credits

### Entry requirements for this pathway in addition to the framework entry requirements

There are no additional requirements to those stated in the general entry requirements

Job title(s)	Job role(s)
Laboratory Technician Education Science (General)	Prepare resources and set up scientific equipment and resources for School / College / University experimentation
Laboratory Technician Education Science (Maintenance)	Maintain scientific equipment and resources used for experimentation

# Qualifications

## Competence qualifications available to this pathway

C1 - PAA\VQ-SET Level 2 NVQ Certificate in Laboratory and Associated Technical Activities (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1868/7	PAA\VQ-SET (Education Science Pathway)	31	214	N/A

C2 - Edexcel Level 2 NVQ Certificate in Laboratory and Associated Technical Activities (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	600/1664/4	Edexcel (Education Science Pathway)	31	214	N/A

## Knowledge qualifications available to this pathway

K1 - EDEXCEL BTEC Level 2 Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/6671/7	EDEXCEL	60	360	N/A

K2 - EDEXCEL BTEC Level 2 Extended Certificate in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7453/2	EDEXCEL	30	180	N/A

## Knowledge qualifications available to this pathway(cont.)

K3 - EDEXCEL BTEC Level 2 Extended Certificate in Engineering (Specialist: Applied Science) (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/8250/4	EDEXCEL	30	180	N/A

K4 - PAA\VQ-SET Level 2 Certificate In Laboratory Technical Skills (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	600/1546/9	PAA\VQ-SET	17	115	N/A

## Combined qualifications available to this pathway

N/A

## Notes on competence and knowledge qualifications (if any)

### **K1a - K4a provide underpinning knowledge for C1a-C2a**

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications deliver essential knowledge which supports the fundamental scientific principles to equip apprentices with the basic understanding required to operate effectively and efficiently in the industry.

In this pathway the units selected from the knowledge-based qualifications should ideally be delivered in an educational workplace context such as an education laboratory.

# Transferable skills (England)

## Functional Skills / GCSE (with enhanced functional content) and Key Skills (England)

English	Minimum level or grade	Credit value
Functional Skills qualification in English	1	5
GCSE qualification in English (with enhanced functional content)	E	5
Key Skills qualification in Communication achieved either before September 2013 as part of the Apprenticeship, or...*	1	5
GCSE Qualification in English*	C	N/A
A' Level or AS Level qualification in English Language*	E	N/A
A' Level or AS Level qualification in English Literature*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	N/A
GCSE or O' Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Literature**	A	N/A
A' Level or AS Level qualification in English Language and Literature**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Mathematics	Minimum level or grade	Credit value
Functional Skills qualification in Mathematics	1	5
GCSE qualification (with enhanced functional content) in Mathematics	E	5
Key Skills qualification in Application of Number achieved either before September 2013 as part of the Apprenticeship, or...*	1	5
GCSE qualification in Mathematics*	C	N/A
A' level or AS Level qualification in Mathematics*	E	N/A
A' Level or AS Level qualification in Pure Mathematics*	E	N/A
A'Level or AS Level qualification in Further Mathematics*	E	N/A
GCSE or O'Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Pure Mathematics**	A	N/A
A' Level or AS Level qualification in Further Mathematics**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

ICT	Minimum level or grade	Credit value
Functional Skills qualification in Information and Communications Technology (ICT)	1	5
GCSE qualification in ICT (with enhanced functional content)	E	5
Key Skills qualification in ICT achieved either before September 2013 as part of the Apprenticeship, or... *	1	5
GCSE qualification in ICT*	C	N/A
A' Level or AS Level qualification in ICT*	A	N/A
GCSE or O'Level qualification in ICT**	A	N/A
A' Level or AS Level qualification in ICT**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

## Inclusion of Information and Communications Technology (ICT)

ICT at level 1 is a requirement in this pathway

# Progression routes into and from this pathway

Progression into the pathway has been described within the entry criteria but the majority of entrants are likely to be school leavers who have completed their GCSE studies and in some cases relevant vocational activity such as a Young Apprenticeship or extended work experience. Others may have worked in the Science sector for a period before considering an apprenticeship.

Progression from the pathway is harder to predict as this is the first time that an apprenticeship programme has been considered as a mainstream means of training laboratory technicians. It is likely that successful apprentices will take up positions in education establishments such schools, colleges and universities as laboratory or science technicians working to support senior teachers and lecturers in setting up and running educational experiments and carrying out research. Others will be involved in maintaining experimental equipment to ensure that it is serviceable and fit for purpose.

In some cases successful intermediate apprentices may be offered progression to an Advanced Apprenticeship specialising in education science or indeed some other area of activity such as Industrial Science or Analytical and Process Science.

# Delivery and assessment of employee rights and responsibilities

The nine national outcomes for Employee Rights and Responsibilities (ERR) are as follows:

1. The range of employer and employee statutory rights and responsibilities under employment law and that employment rights can be affected by other legislation as well. This should cover the apprentice's rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and health and safety, together with the duties of employers.
2. Procedures and documentation which recognises and protects their relationship with their employer, including health and safety and equality and diversity training as part of the apprenticeship.
3. The range of sources and information and advice available to them on their employment rights and responsibilities, including Access to Work and Additional Learning Support.
4. The role played by their occupation in their organisation and industry.
5. Has an informed view of the types of career pathways that are open to them.
6. The types of representative bodies and understands their relevance to their industry and organisation and the main roles and responsibilities.
7. Where and how to get information and advice on their industry, occupation, training and career.
8. Can describe and work within their organisation's principles and codes of practice.
9. Can recognise and form a view on issues of public concern that affect their organisation and industry.

There are three methods of achieving ERR as set out below:

## Method 1

Emta Awards Limited (EAL) have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements. The qualification is detailed below:

EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

QCF qualification ref no: 600/0290/6

Credit value: 5 credits

Guided learning hours: 41

This qualification will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by

various legal and organisational procedures for their own well-being. Apprentices achieving the qualification will have demonstrated that they have the underpinning knowledge relevant for the science environment which satisfies the Specification for Apprenticeship Standards for England.

## Method 2

Semta has produced an Apprentice ERR workbook that is available from:

[customercare@eal.org.uk](mailto:customercare@eal.org.uk)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

## Method 3

Cogent has produced an Apprentice ERR workbook that is available from:

[www.cogent-ssc.com/education\\_and\\_qualifications/Apprenticeships.php](http://www.cogent-ssc.com/education_and_qualifications/Apprenticeships.php)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

**To claim final certification of the apprenticeship, one of the following forms of evidence will be required:**

A qualification certificate for EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science Engineering and Manufacturing Sectors (QCF)

or

A completed and countersigned Semta ERR workbook

**or**

A completed and countersigned Cogent ERR workbook

**Note**

Either workbook will be acceptable for apprenticeship certification

## Level 2, Pathway 2: Laboratory and Associated Technical Activities (Industrial Science)

### Description of this pathway

Laboratory and Associated Technical Activities (Industrial Science) Total minimum credit value = 64 credits

### Entry requirements for this pathway in addition to the framework entry requirements

There are no additional requirements to those stated in the general entry requirements

Job title(s)	Job role(s)
Laboratory Technician (Standards)	Maintain, calibrate and verify equipment functionality for test purposes
Laboratory (Maintenance)	Maintain instruments and medical devices
Laboratory Test Technician (Quality)	Quality testing of manufactured products
Laboratory Analysis Technician	Analyse samples after manufacture
Laboratory Technician (Process)	Analysis of samples during manufacture
Laboratory Technician (Metrology)	Ensure test equipment and instrumentation is appropriately calibrated to ensure accurate measurement
Laboratory Technician (Health Physics)	Monitoring of ionising radiation levels by real time measurement and by analysing dosimeter equipment
Laboratory Technician (Process)	Control and testing of petrochemical products

# Qualifications

## Competence qualifications available to this pathway

C1 - PAA\VQ-SET Level 2 NVQ Certificate in Laboratory and Associated Technical Activities (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1868/7	PAA\VQ-SET (Industrial Science Pathway)	32	245	N/A

C2 - Edexcel Level 2 NVQ Certificate in Laboratory and Associated Technical Activities (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	600/1664/4	Edexcel (Industrial Science Pathway)	32	245	N/A

## Knowledge qualifications available to this pathway

K1 - EDEXCEL BTEC Level 2 Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/6671/7	EDEXCEL	60	360	N/A

K2 - EDEXCEL BTEC Level 2 Extended Certificate in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7453/2	EDEXCEL	30	180	N/A

## Knowledge qualifications available to this pathway(cont.)

K3 - EDEXCEL BTEC Level 2 Extended Certificate in Engineering (Specialist: Applied Science) (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/8250/4	EDEXCEL	30	180	N/A

K4 - PAA\VQ-SET Level 2 Certificate in Laboratory Technical Skills (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	600/1546/9	PAA\VQ-SET	17	115	N/A

## Combined qualifications available to this pathway

N/A

## Notes on competence and knowledge qualifications (if any)

### **K1a to K4a provides underpinning knowledge for C1a-C2a**

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications deliver essential knowledge which supports the fundamental scientific principles to equip apprentices with the basic understanding required to operate effectively and efficiently in the industry.

In this pathway the units selected from the knowledge-based qualifications should ideally be delivered in an workplace context such as a metallurgy or processing laboratory.

# Transferable skills (England)

## Functional Skills / GCSE (with enhanced functional content) and Key Skills (England)

English	Minimum level or grade	Credit value
Functional Skills qualification in English	1	5
GCSE qualification in English (with enhanced functional content)	E	5
Key Skills qualification in Communication achieved either before September 2013 as part of the Apprenticeship, or...*	1	5
GCSE Qualification in English*	C	N/A
A' Level or AS Level qualification in English Language*	E	N/A
A' Level or AS Level qualification in English Literature*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	N/A
GCSE or O' Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Literature**	A	N/A
A' Level or AS Level qualification in English Language and Literature**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Mathematics	Minimum level or grade	Credit value
Functional Skills qualification in Mathematics	1	5
GCSE qualification (with enhanced functional content) in Mathematics	E	5
Key Skills qualification in Application of Number achieved either before September 2013 as part of the Apprenticeship, or...*	1	5
GCSE qualification in Mathematics*	C	N/A
A' level or AS Level qualification in Mathematics*	E	N/A
A' Level or AS Level qualification in Pure Mathematics*	E	N/A
A'Level or AS Level qualification in Further Mathematics*	E	N/A
GCSE or O'Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Pure Mathematics**	A	N/A
A' Level or AS Level qualification in Further Mathematics**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

ICT	Minimum level or grade	Credit value
Functional Skills qualification in Information and Communications Technology (ICT)	1	5
GCSE qualification in ICT (with enhanced functional content)	E	5
Key Skills qualification in ICT achieved either before September 2013 as part of the Apprenticeship, or... *	1	5
GCSE qualification in ICT*	C	N/A
A' Level or AS Level qualification in ICT*	A	N/A
GCSE or O'Level qualification in ICT**	A	N/A
A' Level or AS Level qualification in ICT**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

## Inclusion of Information and Communications Technology (ICT)

ICT at level 1 is a requirement in this pathway

# Progression routes into and from this pathway

Progression into the pathway has been described within the entry criteria but the majority of entrants are likely to be school leavers who have completed their GCSE studies and in some cases relevant vocational activity such as a Young Apprenticeship or extended work experience. Others may have worked in the Science sector for a period before considering an apprenticeship.

Progression from the pathway is harder to predict as this is the first time that an apprenticeship programme has been considered as a mainstream means of training laboratory technicians. It is likely that successful apprentices will take up laboratory technician positions in industrial, petrochemical and nuclear companies carrying out a wide variety of technician job roles

In some cases successful intermediate apprentices may be offered progression to an Advanced Apprenticeship specialising in Industrial Science or indeed some other area of activity such as

Education Science or Analytical and Process Science.

# Delivery and assessment of employee rights and responsibilities

The nine national outcomes for Employee Rights and Responsibilities (ERR) are as follows:

1. The range of employer and employee statutory rights and responsibilities under employment law and that employment rights can be affected by other legislation as well. This should cover the apprentice's rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and health and safety, together with the duties of employers.
2. Procedures and documentation which recognises and protects their relationship with their employer, including health and safety and equality and diversity training as part of the apprenticeship.
3. The range of sources and information and advice available to them on their employment rights and responsibilities, including Access to Work and Additional Learning Support.
4. The role played by their occupation in their organisation and industry.
5. Has an informed view of the types of career pathways that are open to them.
6. The types of representative bodies and understands their relevance to their industry and organisation and the main roles and responsibilities.
7. Where and how to get information and advice on their industry, occupation, training and career.
8. Can describe and work within their organisation's principles and codes of practice.
9. Can recognise and form a view on issues of public concern that affect their organisation and industry.

There are three methods of achieving ERR as set out below:

## Method 1

Emta Awards Limited (EAL) have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements. The qualification is detailed below:

EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

QCF qualification ref no: 600/0290/6

Credit value: 5 credits

Guided learning hours: 41

This qualification will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by

various legal and organisational procedures for their own well-being. Apprentices achieving the qualification will have demonstrated that they have the underpinning knowledge relevant for the science environment which satisfies the Specification for Apprenticeship Standards for England.

## Method 2

Semta has produced an Apprentice ERR workbook that is available from:

[customercare@eal.org.uk](mailto:customercare@eal.org.uk)

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The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

## Method 3

Cogent has produced an Apprentice ERR workbook that is available from:

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The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

**To claim final certification of the apprenticeship, one of the following forms of evidence will be required:**

A qualification certificate for EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science Engineering and Manufacturing Sectors (QCF)

or

A completed and countersigned Semta ERR workbook

**or**

A completed and countersigned Cogent ERR workbook

**Note**

Either workbook will be acceptable for apprenticeship certification

## Level 2, Pathway 3: Laboratory Science (Compound Analysis)

### Description of this pathway

Laboratory Science (Compound Analysis) Total minimum credit value = 82 credits

### Entry requirements for this pathway in addition to the framework entry requirements

There are no additional requirements to those stated in the general entry requirements

Job title(s)	Job role(s)
Laboratory Technician (Process Control and Testing)	Control and testing of GMP chemical compounds and products
Laboratory Analysis Technician	Analysis of samples after GMP manufacture
Laboratory Test Technician (Quality)	Quality testing of GMP manufacture
Laboratory Technician (Process Analysis)	Analysis of biotechnology / pharmaceutical samples from GMP Manufacture to ensure quality control
Laboratory Manufacturing Technician	Preparation of GMP manufacturing batch stock
Laboratory Analysis Technician (Biological / Chemical Analysis)	Biological / chemical analysis of samples to determine content

# Qualifications

## Competence qualifications available to this pathway

C1 - PAA\VQ-SET Level 2 NVQ Diploma in Laboratory Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1207/7	PAA\VQ-SET (Compound Analysis Pathway)	50	268	N/A

C2 - Edexcel Level 2 NVQ Diploma in Laboratory Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	600/1730/2	Edexcel (Compound Analysis Pathway)	50	268	N/A

## Knowledge qualifications available to this pathway

K1 - EDEXCEL BTEC Level 2 Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/6671/7	Edexcel	60	360	N/A

K2 - Edexcel BTEC Level 2 Extended Certificate in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7453/2	EDEXCEL	30	180	N/A

## Knowledge qualifications available to this pathway(cont.)

K3 - PAA\VQ-SET Level 2 Certificate In Laboratory Technical Skills (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	600/1546/9	PAA\VQ-SET	17	115	N/A

## Combined qualifications available to this pathway

N/A

## Notes on competence and knowledge qualifications (if any)

### **K1a to K3a provides underpinning knowledge for C1a-C2a**

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications deliver essential knowledge which supports the fundamental scientific principles to equip apprentices with the basic understanding required to operate effectively and efficiently in the industry.

In this pathway the units selected in the knowledge-based element should ideally be delivered in a workplace analytical or process laboratory context.

# Transferable skills (England)

## Functional Skills / GCSE (with enhanced functional content) and Key Skills (England)

English	Minimum level or grade	Credit value
Functional Skills qualification in English	1	5
GCSE qualification in English (with enhanced functional content)	E	5
Key Skills qualification in Communication achieved either before September 2013 as part of the Apprenticeship, or...*	1	5
GCSE Qualification in English*	C	N/A
A' Level or AS Level qualification in English Language*	E	N/A
A' Level or AS Level qualification in English Literature*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	N/A
GCSE or O' Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Literature**	A	N/A
A' Level or AS Level qualification in English Language and Literature**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Mathematics	Minimum level or grade	Credit value
Functional Skills qualification in Mathematics	1	5
GCSE qualification (with enhanced functional content) in Mathematics	E	5
Key Skills qualification in Application of Number achieved either before September 2013 as part of the Apprenticeship, or...*	1	5
GCSE qualification in Mathematics*	C	N/A
A' level or AS Level qualification in Mathematics*	E	N/A
A' Level or AS Level qualification in Pure Mathematics*	E	N/A
A'Level or AS Level qualification in Further Mathematics*	E	N/A
GCSE or O'Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Pure Mathematics**	A	N/A
A' Level or AS Level qualification in Further Mathematics**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

ICT	Minimum level or grade	Credit value
Functional Skills qualification in Information and Communications Technology (ICT)	1	5
GCSE qualification in ICT (with enhanced functional content)	E	5
Key Skills qualification in ICT achieved either before September 2013 as part of the Apprenticeship, or... *	1	5
GCSE qualification in ICT*	C	N/A
A' Level or AS Level qualification in ICT*	A	N/A
GCSE or O'Level qualification in ICT**	A	N/A
A' Level or AS Level qualification in ICT**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

## Inclusion of Information and Communications Technology (ICT)

ICT at level 1 is a requirement of this pathway

# Progression routes into and from this pathway

Progression into the pathway has been described within the entry criteria but the majority of entrants are likely to be school leavers who have completed their GCSE studies and in some cases relevant vocational activity such as a Young Apprenticeship or extended work experience. Others may have worked in the Science sector for a period before considering an apprenticeship.

Progression from the pathway is harder to predict as this is the first time that an apprenticeship programme has been considered as a mainstream means of training laboratory technicians. It is likely that successful apprentices will take up laboratory technician positions in bio-science, pharmaceutical and bio-technology roles where GMP regulatory requirements apply.

In some cases successful intermediate apprentices may be offered progression to an Advanced Apprenticeship specialising in compound analysis or indeed some other area of activity such as

Education Science or Industrial and Process Science.

# Delivery and assessment of employee rights and responsibilities

The nine national outcomes for Employee Rights and Responsibilities (ERR) are as follows:

1. The range of employer and employee statutory rights and responsibilities under employment law and that employment rights can be affected by other legislation as well. This should cover the apprentice's rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and health and safety, together with the duties of employers.
2. Procedures and documentation which recognises and protects their relationship with their employer, including health and safety and equality and diversity training as part of the apprenticeship.
3. The range of sources and information and advice available to them on their employment rights and responsibilities, including Access to Work and Additional Learning Support.
4. The role played by their occupation in their organisation and industry.
5. Has an informed view of the types of career pathways that are open to them.
6. The types of representative bodies and understands their relevance to their industry and organisation and the main roles and responsibilities.
7. Where and how to get information and advice on their industry, occupation, training and career.
8. Can describe and work within their organisation's principles and codes of practice.
9. Can recognise and form a view on issues of public concern that affect their organisation and industry.

There are three methods of achieving ERR as set out below:

## Method 1

Emta Awards Limited (EAL) have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements. The qualification is detailed below:

EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

QCF qualification ref no: 600/0290/6

Credit value: 5 credits

Guided learning hours: 41

This qualification will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by

various legal and organisational procedures for their own well-being. Apprentices achieving the qualification will have demonstrated that they have the underpinning knowledge relevant for the science environment which satisfies the Specification for Apprenticeship Standards for England.

## Method 2

Semta has produced an Apprentice ERR workbook that is available from:

[customercare@eal.org.uk](mailto:customercare@eal.org.uk)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

## Method 3

Cogent has produced an Apprentice ERR workbook that is available from:

[www.cogent-ssc.com/education\\_and\\_qualifications/Apprenticeships.php](http://www.cogent-ssc.com/education_and_qualifications/Apprenticeships.php)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

**To claim final certification of the apprenticeship, one of the following forms of evidence will be required:**

A qualification certificate for EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science Engineering and Manufacturing Sectors (QCF)

or

A completed and countersigned Semta ERR workbook

**or**

A completed and countersigned Cogent ERR workbook

**Note**

Either workbook will be acceptable for apprenticeship certification

## Level 2, Pathway 4: Laboratory Science (Clinical Analysis)

### Description of this pathway

Laboratory Science (Clinical Analysis) Total minimum credit value = 69 credits

### Entry requirements for this pathway in addition to the framework entry requirements

There are no additional requirements to those stated in the general entry requirements

Job title(s)	Job role(s)
Laboratory Technician (Human and Animal)	Therapeutic and diagnostic GLP / GCP testing
Medical Laboratory Assistant	Collect, store, process and prepare patient specimens

# Qualifications

## Competence qualifications available to this pathway

C1 - PAA\VQ-SET Level 2 NVQ Diploma in Laboratory Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1207/7	PAA\VQ-SET (Clinical Analysis Pathway)	37	214	N/A

C2 - Edexcel Level 2 NVQ Diploma in Laboratory Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	600/1730/2	Edexcel (Clinical Analysis Pathway)	37	214	N/A

## Knowledge qualifications available to this pathway

K1 - EDEXCEL BTEC Level 2 Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/6671/7	EDEXCEL	60	360	N/A

K2 - EDEXCEL BTEC Level 2 Extended Certificate in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7453/2	EDEXCEL	30	180	N/A

## Knowledge qualifications available to this pathway(cont.)

K3 - PAA\VQ-SET Level 2 Certificate In Laboratory Technical Skills (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	600/1546/9	PAA\VQ-SET	17	115	N/A

## Combined qualifications available to this pathway

N/A

## Notes on competence and knowledge qualifications (if any)

### **K1a to K3a provides underpinning knowledge for C1a-C2a**

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications deliver essential knowledge which supports the fundamental scientific principles to equip apprentices with the basic understanding required to operate effectively and efficiently in the industry.

In this pathway the units selected in the knowledge-based qualifications should be delivered in a workplace context such as a clinical laboratory (human or animal) pathology or histology analytical laboratory.

# Transferable skills (England)

## Functional Skills / GCSE (with enhanced functional content) and Key Skills (England)

English	Minimum level or grade	Credit value
Functional Skills qualification in English	1	5
GCSE qualification in English (with enhanced functional content)	E	5
Key Skills qualification in Communication achieved either before September 2013 as part of the Apprenticeship, or... *	1	5
GCSE Qualification in English*	C	N/A
A' Level or AS Level qualification in English Language*	E	N/A
A' Level or AS Level qualification in English Literature*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	N/A
GCSE or O' Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Literature**	A	N/A
A' Level or AS Level qualification in English Language and Literature**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Mathematics	Minimum level or grade	Credit value
Functional Skills qualification in Mathematics	1	5
GCSE qualification (with enhanced functional content) in Mathematics	E	5
Key Skills qualification in Application of Number achieved either before September 2013 as part of the Apprenticeship, or...*	1	5
GCSE qualification in Mathematics*	C	N/A
A' level or AS Level qualification in Mathematics*	E	N/A
A' Level or AS Level qualification in Pure Mathematics*	E	N/A
A'Level or AS Level qualification in Further Mathematics*	E	N/A
GCSE or O'Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Pure Mathematics**	A	N/A
A' Level or AS Level qualification in Further Mathematics**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

ICT	Minimum level or grade	Credit value
Functional Skills qualification in Information and Communications Technology (ICT)	1	5
GCSE qualification in ICT (with enhanced functional content)	E	5
Key Skills qualification in ICT achieved either before September 2013 as part of the Apprenticeship, or... *	1	5
GCSE qualification in ICT*	C	N/A
A' Level or AS Level qualification in ICT*	A	N/A
GCSE or O'Level qualification in ICT**	A	N/A
A' Level or AS Level qualification in ICT**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

## Inclusion of Information and Communications Technology (ICT)

ICT at level 1 is a requirement of this pathway

# Progression routes into and from this pathway

Progression into the pathway has been described within the entry criteria but the majority of entrants are likely to be school leavers who have completed their GCSE studies and in some cases relevant vocational activity such as a Young Apprenticeship or extended work experience. Others may have worked in the Science sector for a period before considering an apprenticeship.

Progression from the pathway is harder to predict as this is the first time that an apprenticeship programme has been considered as a mainstream means of training laboratory technicians. It is likely that successful apprentices will take up laboratory technician positions in research and development, hospitals and healthcare (human and animal) carrying out a wide variety of job roles

In some cases successful intermediate apprentices may be offered progression to an Advanced Apprenticeship specialising in Clinical Analysis or indeed some other area of activity such as

Education Science or Compound and Process Science.

# Delivery and assessment of employee rights and responsibilities

The nine national outcomes for Employee Rights and Responsibilities (ERR) are as follows:

1. The range of employer and employee statutory rights and responsibilities under employment law and that employment rights can be affected by other legislation as well. This should cover the apprentice's rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and health and safety, together with the duties of employers.
2. Procedures and documentation which recognises and protects their relationship with their employer, including health and safety and equality and diversity training as part of the apprenticeship.
3. The range of sources and information and advice available to them on their employment rights and responsibilities, including Access to Work and Additional Learning Support.
4. The role played by their occupation in their organisation and industry.
5. Has an informed view of the types of career pathways that are open to them.
6. The types of representative bodies and understands their relevance to their industry and organisation and the main roles and responsibilities.
7. Where and how to get information and advice on their industry, occupation, training and career.
8. Can describe and work within their organisation's principles and codes of practice.
9. Can recognise and form a view on issues of public concern that affect their organisation and industry.

There are three methods of achieving ERR as set out below:

## Method 1

Emta Awards Limited (EAL) have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements. The qualification is detailed below:

EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

QCF qualification ref no: 600/0290/6

Credit value: 5 credits

Guided learning hours: 41

This qualification will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by

various legal and organisational procedures for their own well-being. Apprentices achieving the qualification will have demonstrated that they have the underpinning knowledge relevant for the science environment which satisfies the Specification for Apprenticeship Standards for England.

## Method 2

Semta has produced an Apprentice ERR workbook that is available from:

[customercare@eal.org.uk](mailto:customercare@eal.org.uk)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

## Method 3

Cogent has produced an Apprentice ERR workbook that is available from:

[www.cogent-ssc.com/education\\_and\\_qualifications/Apprenticeships.php](http://www.cogent-ssc.com/education_and_qualifications/Apprenticeships.php)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

**To claim final certification of the apprenticeship, one of the following forms of evidence will be required:**

A qualification certificate for EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science Engineering and Manufacturing Sectors (QCF)

or

A completed and countersigned Semta ERR workbook

**or**

A completed and countersigned Cogent ERR workbook

**Note**

Either workbook will be acceptable for apprenticeship certification

## Level 3

Title for this framework at level 3

# Advanced Apprenticeship for Laboratory and Science Technicians

## Pathways for this framework at level 3

- Pathway 1: Laboratory and Associated Technical Activities - (Education Science)
- Pathway 2: Laboratory and Associated Technical Activities (Industrial Science)
- Pathway 3: Laboratory Science - Analytical & Process Science

## Level 3, Pathway 1: Laboratory and Associated Technical Activities - (Education Science)

### Description of this pathway

Laboratory and Associated Technical Activities - Science and Laboratory Technicians (Education Science) Total minimum credit value = 88 credits

### Entry requirements for this pathway in addition to the framework entry requirements

There are no additional requirements to those stated in the general entry requirements

Job title(s)	Job role(s)
Laboratory Technician Education Science (General)	Work with teachers, lecturers and university staff to develop apparatus, equipment and resources for school / college / university research and experimentation
Laboratory Technician Education Science (Maintenance)	Developing and advising maintenance requirements for apparatus, resources and equipment to be used for experimental research and new designs with their associated maintenance

# Qualifications

## Competence qualifications available to this pathway

### C1 - PAA\VQ-SET Level 3 NVQ Diploma in Laboratory and Associated Technical Activities (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1869/9	PAA\VQ-SET (Education Science Pathway)	48	300	

### C2 - Edexcel Level 3 NVQ Diploma in Laboratory and Associated Technical Activities (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	600/1731/4	Edexcel (Education Science Pathway)	48	300	

## Knowledge qualifications available to this pathway

### K1 - Edexcel BTEC Level 3 Diploma in Applied Science (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/6673/0	Edexcel	120	720	

### K2 - Edexcel BTEC Level 3 Diploma in Engineering (Specialist: Applied Science) (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/8186/X	Edexcel	60	360	

## Knowledge qualifications available to this pathway(cont.)

K3 - EDEXCEL BTEC Level 3 Extended Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/6720/5	Edexcel	180	1080	

K4 - EDEXCEL BTEC Level 3 Subsidiary Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	500/6725/4	Edexcel	60	360	

K5 - PAA\VQ-SET Level 3 Certificate In Laboratory Technical Skills (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K5a	600/1545/7	PAA\VQ-SET	25	180	

## Combined qualifications available to this pathway

N/A

## Notes on competence and knowledge qualifications (if any)

### **K1a to K5a provides underpinning knowledge for C1a-C2a**

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications deliver essential knowledge which supports the fundamental scientific and mathematic principles to equip apprentices with the understanding required to operate effectively and efficiently within the science industry at a technician level.

In this pathway the units selected from the knowledge-based qualifications should ideally be delivered in an educational workplace context such as an education laboratory.

# Transferable skills (England)

## Functional Skills / GCSE (with enhanced functional content) and Key Skills (England)

English	Minimum level or grade	Credit value
Functional Skills qualification in English	2	5
GCSE qualification in English (with enhanced functional content)	C	5
Key Skills qualification in Communication achieved either before September 2013 as part of the Apprenticeship, or...*	2	5
GCSE Qualification in English*	C	N/A
A' Level or AS Level qualification in English Language*	E	N/A
A' Level or AS Level qualification in English Literature*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	N/A
GCSE or O' Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Literature**	A	N/A
A' Level or AS Level qualification in English Language and Literature**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Mathematics	Minimum level or grade	Credit value
Functional Skills qualification in Mathematics	2	5
GCSE qualification (with enhanced functional content) in Mathematics	C	5
Key Skills qualification in Application of Number achieved either before September 2013 as part of the Apprenticeship, or...*	2	5
GCSE qualification in Mathematics*	C	N/A
A' level or AS Level qualification in Mathematics*	E	N/A
A' Level or AS Level qualification in Pure Mathematics*	E	N/A
A'Level or AS Level qualification in Further Mathematics*	E	N/A
GCSE or O'Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Pure Mathematics**	A	N/A
A' Level or AS Level qualification in Further Mathematics**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

ICT	Minimum level or grade	Credit value
Functional Skills qualification in Information and Communications Technology (ICT)	2	5
GCSE qualification in ICT (with enhanced functional content)	C	5
Key Skills qualification in ICT achieved either before September 2013 as part of the Apprenticeship, or... *	2	5
GCSE qualification in ICT*	C	N/A
A' Level or AS Level qualification in ICT*	A	N/A
GCSE or O'Level qualification in ICT**	A	N/A
A' Level or AS Level qualification in ICT**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

## Inclusion of Information and Communications Technology (ICT)

ICT at level 2 is a requirement of this pathway

# Progression routes into and from this pathway

Progression into the pathway has been described within the entry criteria but the majority of entrants are likely to be school leavers who have completed their GCSE or A level studies and in some cases relevant vocational activity such as a Young Apprenticeship or extended work experience. Others may have worked in the Science Sector for a period before considering an apprenticeship. Some may have already completed an Intermediate Apprenticeship for Laboratory and Science Technicians (Education Science) or one of the three other pathways.

Progression from the pathway is harder to predict as this is the first time that an apprenticeship programme has been considered as a mainstream means of training laboratory and science technicians. It is likely that successful apprentices will take up these positions in schools, colleges and universities. In most cases these will be of a supervisory nature carrying out routine and non-routine activities.

Opportunities to undertake Further and Higher education are likely especially apprentices who complete the BTEC Level 3 Diploma in Applied Science, apprentices may have the opportunity to progress onto level 4/5 science related qualifications, which could provide access to a wide range of science related university courses. "Many universities are treating the level 3 applied science course as they would 3 science A levels". (*Source Edexcel*)

### UCAS points for this pathway:

*(no information)*

# Delivery and assessment of employee rights and responsibilities

The nine national outcomes for Employee Rights and Responsibilities (ERR) are as follows:

1. The range of employer and employee statutory rights and responsibilities under employment law and that employment rights can be affected by other legislation as well. This should cover the apprentice's rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and health and safety, together with the duties of employers.
2. Procedures and documentation which recognises and protects their relationship with their employer, including health and safety and equality and diversity training as part of the apprenticeship.
3. The range of sources and information and advice available to them on their employment rights and responsibilities, including Access to Work and Additional Learning Support.
4. The role played by their occupation in their organisation and industry.
5. Has an informed view of the types of career pathways that are open to them.
6. The types of representative bodies and understands their relevance to their industry and organisation and the main roles and responsibilities.
7. Where and how to get information and advice on their industry, occupation, training and career.
8. Can describe and work within their organisation's principles and codes of practice.
9. Can recognise and form a view on issues of public concern that affect their organisation and industry.

There are three methods of achieving ERR as set out below:

## Method 1

Emta Awards Limited (EAL) have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements. The qualification is detailed below:

EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

QCF qualification ref no: 600/0290/6

Credit value: 5 credits

Guided learning hours: 41

This qualification will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by

various legal and organisational procedures for their own well-being. Apprentices achieving the qualification will have demonstrated that they have the underpinning knowledge relevant for the science environment which satisfies the Specification for Apprenticeship Standards for England.

## Method 2

Semta has produced an Apprentice ERR workbook that is available from:

[customercare@eal.org.uk](mailto:customercare@eal.org.uk)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

## Method 3

Cogent has produced an Apprentice ERR workbook that is available from:

[www.cogent-ssc.com/education\\_and\\_qualifications/Apprenticeships.php](http://www.cogent-ssc.com/education_and_qualifications/Apprenticeships.php)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

**To claim final certification of the apprenticeship, one of the following forms of evidence will be required:**

A qualification certificate for EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science Engineering and Manufacturing Sectors (QCF)

or

A completed and countersigned Semta ERR workbook

**or**

A completed and countersigned Cogent ERR workbook

**Note**

Either workbook will be acceptable for apprenticeship certification

## Level 3, Pathway 2: Laboratory and Associated Technical Activities (Industrial Science)

### Description of this pathway

Laboratory and Associated Technical Activities - Science and Laboratory Technicians (Industrial Science) Total minimum credit value = 100 credits

### Entry requirements for this pathway in addition to the framework entry requirements

There are no additional requirements to those stated in the general entry requirements

Job title(s)	Job role(s)
Laboratory Technician (Health physics)	Develop appropriate procedures for radiological protection and monitoring
Laboratory Analysis Technician (Environmental Science)	Devising and carrying out appropriate sample testing of environmental contaminants
Laboratory Technician (Process)	Control and testing of petro-chemical products
Laboratory Technician (Standards)	Maintain, calibrate and verify equipment functionality for test purposes
Laboratory Technician (Maintenance)	Development of maintenance protocols for instruments and medical devices
Laboratory Researcher / Technician	Development of human and animal therapeutic and diagnostic instruments and technical devices

# Qualifications

## Competence qualifications available to this pathway

C1 - PAA\VQ-SET Level 3 NVQ Diploma in Laboratory and Associated Technical Activities (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1869/9	PAA\VQ-SET (Industrial Science Pathway)	60	318	

C2 - Edexcel Level 3 NVQ Diploma in Laboratory and Associated Technical Activities (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	600/1731/4	Edexcel (Industrial Science Pathway)	60	318	

## Knowledge qualifications available to this pathway

K1 - EDEXCEL BTEC Level 3 Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/6673/0	EDEXCEL	120	720	

K2 - EDEXCEL BTEC Level 3 Diploma in Engineering (Specialist: Applied Science) (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/8186/X	EDEXCEL	60	360	

## Knowledge qualifications available to this pathway(cont.)

K3 - EDEXCEL BTEC Level 3 Extended Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/6720/5	EDEXCEL	180	1080	

  

K4 - EDEXCEL BTEC Level 3 Subsidiary Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	500/6725/4	EDEXCEL	60	360	

  

K5 - EDEXCEL BTEC Level 3 Diploma in Manufacturing Engineering (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K5a	500/7319/9	EDEXCEL	120	720	

  

K6 - PAA\VQ-SET Level 3 Certificate In Laboratory Technical Skills (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K6a	600/1545/7	PAA\VQ-SET	25	180	

## Combined qualifications available to this pathway

N/A

## Notes on competence and knowledge qualifications (if any)

### **K1a- K6a provides underpinning knowledge for C1a-C2a**

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications deliver essential knowledge which supports the fundamental scientific and mathematic principles to equip apprentices with the understanding required to operate effectively and efficiently within the science industry at a technician level.

In this pathway the units selected from the knowledge-based qualifications should ideally be delivered in an educational workplace context such as an industrial laboratory.

# Transferable skills (England)

## Functional Skills / GCSE (with enhanced functional content) and Key Skills (England)

English	Minimum level or grade	Credit value
Functional Skills qualification in English	2	5
GCSE qualification in English (with enhanced functional content)	C	5
Key Skills qualification in Communication achieved either before September 2013 as part of the Apprenticeship, or... *	2	5
GCSE Qualification in English*	C	N/A
A' Level or AS Level qualification in English Language*	E	N/A
A' Level or AS Level qualification in English Literature*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	N/A
GCSE or O' Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Literature**	A	N/A
A' Level or AS Level qualification in English Language and Literature**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Mathematics	Minimum level or grade	Credit value
Functional Skills qualification in Mathematics	2	5
GCSE qualification (with enhanced functional content) in Mathematics	C	5
Key Skills qualification in Application of Number achieved either before September 2013 as part of the Apprenticeship, or...*	2	5
GCSE qualification in Mathematics*	C	N/A
A' level or AS Level qualification in Mathematics*	E	N/A
A' Level or AS Level qualification in Pure Mathematics*	E	N/A
A'Level or AS Level qualification in Further Mathematics*	E	N/A
GCSE or O'Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Pure Mathematics**	A	N/A
A' Level or AS Level qualification in Further Mathematics**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

ICT	Minimum level or grade	Credit value
Functional Skills qualification in Information and Communications Technology (ICT)	2	5
GCSE qualification in ICT (with enhanced functional content)	C	5
Key Skills qualification in ICT achieved either before September 2013 as part of the Apprenticeship, or... *	2	5
GCSE qualification in ICT*	C	N/A
A' Level or AS Level qualification in ICT*	A	N/A
GCSE or O'Level qualification in ICT**	A	N/A
A' Level or AS Level qualification in ICT**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

## Inclusion of Information and Communications Technology (ICT)

ICT at level 2 is a requirement of this pathway

# Progression routes into and from this pathway

Progression into the pathway has been described within the entry criteria but the majority of entrants are likely to be school leavers who have completed their GCSE or A level studies and in some cases relevant vocational activity such as a Young Apprenticeship or extended work experience. Others may have worked in the Science sector for a period before considering an apprenticeship. Some may have already completed an Intermediate Apprenticeship for Laboratory and Science Technicians (Industrial Science) or one of the three other pathways.

Progression from the pathway is harder to predict as this is the first time that an apprenticeship programme has been considered as a mainstream means of training laboratory and science technicians. It is likely that successful apprentices will take up these positions in industrial, pharmaceutical, petrochemical and nuclear companies carrying out a wide variety of technician job roles. In most cases these will be of a supervisory nature carrying out routine and non-routine activity. Opportunities to undertake Further and Higher Education are likely.

Opportunities to undertake Further and Higher education are likely especially apprentices who complete the BTEC Level 3 Diploma in Applied Science, apprentices may have the opportunity to progress onto level 4/5 science related qualifications, which could provide access to a wide range of science related university courses. "Many universities are treating the level 3 applied science course as they would 3 science A levels". (*Source Edexcel*)

### UCAS points for this pathway:

*(no information)*

# Delivery and assessment of employee rights and responsibilities

The nine national outcomes for Employee Rights and Responsibilities (ERR) are as follows:

1. The range of employer and employee statutory rights and responsibilities under employment law and that employment rights can be affected by other legislation as well. This should cover the apprentice's rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and health and safety, together with the duties of employers.
2. Procedures and documentation which recognises and protects their relationship with their employer, including health and safety and equality and diversity training as part of the apprenticeship.
3. The range of sources and information and advice available to them on their employment rights and responsibilities, including Access to Work and Additional Learning Support.
4. The role played by their occupation in their organisation and industry.
5. Has an informed view of the types of career pathways that are open to them.
6. The types of representative bodies and understands their relevance to their industry and organisation and the main roles and responsibilities.
7. Where and how to get information and advice on their industry, occupation, training and career.
8. Can describe and work within their organisation's principles and codes of practice.
9. Can recognise and form a view on issues of public concern that affect their organisation and industry.

There are three methods of achieving ERR as set out below:

## Method 1

Emta Awards Limited (EAL) have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements. The qualification is detailed below:

EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

QCF qualification ref no: 600/0290/6

Credit value: 5 credits

Guided learning hours: 41

This qualification will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by

various legal and organisational procedures for their own well-being. Apprentices achieving the qualification will have demonstrated that they have the underpinning knowledge relevant for the science environment which satisfies the Specification for Apprenticeship Standards for England.

## Method 2

Semta has produced an Apprentice ERR workbook that is available from:

[customercare@eal.org.uk](mailto:customercare@eal.org.uk)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

## Method 3

Cogent has produced an Apprentice ERR workbook that is available from:

[www.cogent-ssc.com/education\\_and\\_qualifications/Apprenticeships.php](http://www.cogent-ssc.com/education_and_qualifications/Apprenticeships.php)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

**To claim final certification of the apprenticeship, one of the following forms of evidence will be required:**

A qualification certificate for EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science Engineering and Manufacturing Sectors (QCF)

or

A completed and countersigned Semta ERR workbook

**or**

A completed and countersigned Cogent ERR workbook

**Note**

Either workbook will be acceptable for apprenticeship certification

## Level 3, Pathway 3: Laboratory Science - Analytical & Process Science

### Description of this pathway

Laboratory Science (Analytical & Process Science) Total minimum credit value = 111 credits

### Entry requirements for this pathway in addition to the framework entry requirements

There are no additional requirements to those stated in the general entry requirements

Job title(s)	Job role(s)
Laboratory Technician (Process)	Development of batch product and analysis of samples during manufacture to ensure quality control and control and testing of chemical products
Laboratory Manufacturing Technician	Development of manufacturing protocols to ensure consistent manufacture quality
Fermentation Laboratory Technician	Development of biotechnology protocols to ensure consistent manufacture quality
Laboratory Technicians (Haematology)	Examination of blood cells and blood clotting mechanisms
Laboratory Technicians (Microbiology)	Analysis and identification of microorganisms

# Qualifications

## Competence qualifications available to this pathway

C1 - PAA\VQ-SET Level 3 NVQ Diploma in Laboratory Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1293/4	PAA\VQ-SET	71	316	

C2 - Edexcel Level 3 NVQ Diploma in Laboratory Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	600/1732/6	Edexcel	71	316	

## Knowledge qualifications available to this pathway

K1 - EDEXCEL BTEC Level 3 Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/6673/0	EDEXCEL	120	720	

K2 - EDEXCEL BTEC Level 3 Diploma in Engineering (Specialist: Applied Science) (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/8186/X	EDEXCEL	60	360	

## Knowledge qualifications available to this pathway(cont.)

K3 - EDEXCEL BTEC Level 3 Extended Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/6720/5	EDEXCEL	180	1080	

K4 - EDEXCEL BTEC Level 3 Subsidiary Diploma in Applied Science (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	500/6725/4	EDEXCEL	60	360	

K5 - PAA\VQ-SET Level 3 Certificate In Laboratory Technical Skills (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K5a	600/1545/7	PAA\VQ-SET	25	180	

## Combined qualifications available to this pathway

N/A

## Notes on competence and knowledge qualifications (if any)

### **K1a- K5a provides underpinning knowledge for C1a-C2a**

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications deliver essential knowledge which supports the fundamental scientific and mathematic principles to equip apprentices with the understanding required to operate effectively and efficiently within the science industry at a technician level.

In this pathway the units selected in the knowledge-based should ideally be delivered in a workplace analytical and process laboratory context, such as a clinical or compound processing laboratory.

# Transferable skills (England)

## Functional Skills / GCSE (with enhanced functional content) and Key Skills (England)

English	Minimum level or grade	Credit value
Functional Skills qualification in English	2	5
GCSE qualification in English (with enhanced functional content)	C	5
Key Skills qualification in Communication achieved either before September 2013 as part of the Apprenticeship, or...*	2	5
GCSE Qualification in English*	C	N/A
A' Level or AS Level qualification in English Language*	E	N/A
A' Level or AS Level qualification in English Literature*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	N/A
GCSE or O' Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Literature**	A	N/A
A' Level or AS Level qualification in English Language and Literature**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Mathematics	Minimum level or grade	Credit value
Functional Skills qualification in Mathematics	2	5
GCSE qualification (with enhanced functional content) in Mathematics	C	5
Key Skills qualification in Application of Number achieved either before September 2013 as part of the Apprenticeship, or...*	2	5
GCSE qualification in Mathematics*	C	N/A
A' level or AS Level qualification in Mathematics*	E	N/A
A' Level or AS Level qualification in Pure Mathematics*	E	N/A
A'Level or AS Level qualification in Further Mathematics*	E	N/A
GCSE or O'Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Pure Mathematics**	A	N/A
A' Level or AS Level qualification in Further Mathematics**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

ICT	Minimum level or grade	Credit value
Functional Skills qualification in Information and Communications Technology (ICT)	2	5
GCSE qualification in ICT (with enhanced functional content)	C	5
Key Skills qualification in ICT achieved either before September 2013 as part of the Apprenticeship, or... *	2	5
GCSE qualification in ICT*	C	N/A
A' Level or AS Level qualification in ICT*	A	N/A
GCSE or O'Level qualification in ICT**	A	N/A
A' Level or AS Level qualification in ICT**	A	N/A

\* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

\*\* achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

## Inclusion of Information and Communications Technology (ICT)

ICT at level 2 is a requirement of this pathway

# Progression routes into and from this pathway

Progression into the pathway has been described within the entry criteria but the majority of entrants are likely to be school leavers who have completed their GCSE or A level studies and in some cases relevant vocational activity such as a Young Apprenticeship or extended work experience. Others may have worked in the Science sector for a period before considering an apprenticeship. Some may have already completed an Intermediate Apprenticeship for Laboratory and Science Technicians in one of the four level 2 pathways.

Progression from the pathway is harder to predict as this is the first time that an apprenticeship programme has been considered as a mainstream means of training laboratory technicians. It is likely that successful apprentices will take up laboratory technician positions in bioscience, biotechnology, medical or pharmaceutical companies carrying out a wide variety of technician job roles in Analytical and Process Science. In most cases these will be of a supervisory nature carrying out routine and non-routine activity.

Opportunities to undertake Further and Higher education are likely especially apprentices who complete the BTEC Level 3 Diploma in Applied Science, apprentices may have the opportunity to progress onto level 4/5 science related qualifications, which could provide access to a wide range of science related university courses. "Many universities are treating the level 3 applied science course as they would 3 science A levels". (*Source Edexcel*)

### UCAS points for this pathway:

*(no information)*

# Delivery and assessment of employee rights and responsibilities

The nine national outcomes for Employee Rights and Responsibilities (ERR) are as follows:

1. The range of employer and employee statutory rights and responsibilities under employment law and that employment rights can be affected by other legislation as well. This should cover the apprentice's rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and health and safety, together with the duties of employers.
2. Procedures and documentation which recognises and protects their relationship with their employer, including health and safety and equality and diversity training as part of the apprenticeship.
3. The range of sources and information and advice available to them on their employment rights and responsibilities, including Access to Work and Additional Learning Support.
4. The role played by their occupation in their organisation and industry.
5. Has an informed view of the types of career pathways that are open to them.
6. The types of representative bodies and understands their relevance to their industry and organisation and the main roles and responsibilities.
7. Where and how to get information and advice on their industry, occupation, training and career.
8. Can describe and work within their organisation's principles and codes of practice.
9. Can recognise and form a view on issues of public concern that affect their organisation and industry.

There are three methods of achieving ERR as set out below:

## Method 1

Emta Awards Limited (EAL) have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements. The qualification is detailed below:

EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

QCF qualification ref no: 600/0290/6

Credit value: 5 credits

Guided learning hours: 41

This qualification will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by

various legal and organisational procedures for their own well-being. Apprentices achieving the qualification will have demonstrated that they have the underpinning knowledge relevant for the science environment which satisfies the Specification for Apprenticeship Standards for England.

## Method 2

Semta has produced an Apprentice ERR workbook that is available from:

[customercare@eal.org.uk](mailto:customercare@eal.org.uk)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

## Method 3

Cogent has produced an Apprentice ERR workbook that is available from:

[www.cogent-ssc.com/education\\_and\\_qualifications/Apprenticeships.php](http://www.cogent-ssc.com/education_and_qualifications/Apprenticeships.php)

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their \*company induction where significant amounts of information towards the national outcomes will be covered.

The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

\*Please note: All apprentices must receive a company induction programme

**To claim final certification of the apprenticeship, one of the following forms of evidence will be required:**

A qualification certificate for EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science Engineering and Manufacturing Sectors (QCF)

or

A completed and countersigned Semta ERR workbook

**or**

A completed and countersigned Cogent ERR workbook

**Note**

Either workbook will be acceptable for apprenticeship certification

*The remaining sections apply to all levels and pathways within this framework.*

## How equality and diversity will be met

Semta and Cogent recognise the training and business benefits of having apprentices from a wide variety of diverse backgrounds. We are committed to ensuring equality and diversity drives all aspects of apprentice selection and recruitment.

Equal opportunity and diversity refers to the active elimination of unlawful or unfair discrimination against any person or group on the grounds of gender, race, colour, nationality, ethnic origin, religion, age, sexual orientation, marriage and civil partnership, pregnancy and maternity, political belief, disability and where appropriate, prison/offender background where this is deemed irrelevant.

Semta wishes to make a Gender Equality Commitment. Semta has signed the United Kingdom Resource Centre (UKRC) CEO's charter in a bid to step up female recruitment in its key sectors and programmes. Due to impending skills gaps it is estimated that 187,000 people will be required to be recruited and trained between 2010-2016 within Semta's sectors of Aerospace, Automotive, Bioscience, Composites, Electrical, Electronics, Maintenance, Marine, Mathematics, Metals and Engineered Metal Products, Renewables and Science.

The UKRC is the Government's leading body for advanced gender equality in Science, Engineering and Technology (SET) and the CEO's charter is a formal commitment to the UKRC's agenda to challenge the under-representation of women in SET.

Women make up 50% of the labour market, yet they make up less than 20% of the labour market in Science, Engineering and Technology. The UKRC believes that only a concerted effort by the SET industry will break down the gender barriers that exist in traditionally male-dominated environments and we want to be part of a new consensus which will create an inclusive working environment for women.

Providers of apprenticeship training including employers must be able to demonstrate there are no overt or covert discriminatory practices in the selection and employment of apprentices this can be demonstrated by the implementing a Single Equality Scheme (SES).

The new Equality Duty (part of the Single Equality Bill) introduced to the public sector requires all public sector bodies to produce a SES combining their current race, disability and gender schemes and should be recognised by all providers of apprenticeship training.

The implementation of a SES demonstrates the organisation's commitment to equality and diversity by identifying new and improved ways of working to ensure the organisation is more efficient and effective in meeting the diverse needs of both staff and customers.

All those who recruit apprentices be they colleges, training providers or employers must comply with the Equality act of 2010 and apply the Equality and diversity legislation taking full account of the following:

- The Sex Discrimination Act 1975 and Code of Practice
- The Race Relations Act 1976 and Code of Practice
- The Disability Discrimination Act 1995 and Code of Practice
- Employment Equality (Religion or Belief) Regulations 2003
- Employment Equality (Sexual Orientation) Regulations 2003
- Employment Equality (Age) Regulations 2006
- The Equality Act 2010

Providers of apprenticeship training and employers must also actively monitor equality of opportunity and diversity procedures and take positive action where necessary to ensure equal access and treatment for all.

Apprenticeships must be seen as a vital route to encourage and facilitate long term change in the equality and diversity of the Science industry, therefore entry conditions into this framework are extremely flexible. All effort should be made to increase the diversity of our apprentice population.

## On and off the job guided learning (England)

### Total GLH for each pathway

Semta and Cogent recognise that all apprentices have different learning needs and some apprentices will require more and some apprentices will require less guided learning hours (GLH). We have outlined the GLH delivered to apprentices as set out by the GLH in the individual qualifications.

This represents a typical apprentice with minimum experience in the sector. As specified by the Specification of Apprenticeship Standards for England (SASE):

*A minimum of 280 GLH of which at least 100 GLH or 30% (whichever is greater) must be delivered off-the-job and clearly evidenced.*

*Where an apprentice completes an Apprenticeship part way through the final 12 month period (which is after the first 12 months), an apprentice must receive a proportion of the minimum of 280 GLH which is at least equal to the proportion of the final 12 month period spent on the Apprenticeship.*

*Both on and off the job GLH must be clearly evidenced. This SASE requirement for on the-job*

*and off the job guided learning is intended to meet the requirement in Section 27 (2) (b) of the Apprenticeships, Skills, Children & Learning (ASCL) Act for on-the-job training and off-the-job training.*

### **Intermediate Apprenticeship (Level 2) for Laboratory and Science Technicians**

#### **Pathway 1: Laboratory and Associated Technical Activities - (Education Science) Level 2**

Pathway duration approximately 18 months depending on the qualification and unit options selected

Total minimum credit value = 63 credits

Total GLH = 637 hours

- Competence = minimum 214 hours/ minimum 31 credits
- Knowledge = minimum 115 hours (smallest Technical Certificate)/minimum 17 credits)
- Functional Skills (notional value 45 hours x 3 = 135 hours/ 15 credits )
- Mentoring 72 weeks x 1 hour/week = 72 hours
- PLTS = 60 hrs
- ERR = 41 hrs

Year 1 = 425 hours    Year 2 = 212 hours

#### **Pathway 2 : Laboratory and Associated Technical Activities - (Industrial Science) Level 2**

Pathway duration approximately 18 months depending on the qualification and unit options selected

Total minimum credit value = 64 credits

Total GLH = 669 hours

Competence = minimum 245 hours/ minimum 32 credits

Knowledge = minimum 115 hours (smallest Technical Certificate)/minimum 17 credits)

Functional Skills (notional value 45 hours x 3 = 135 hours/ 15 credits)

Mentoring 72 weeks x 1 hour/week = 72 hours

PLTS = 60 hrs

ERR = 41 hrs

Year 1 = 446 hours Year 2 = 223 hours

### **Pathway 3 : Laboratory Science (Compound Analysis) Level 2**

Pathway duration approximately 18 months depending on the qualification and unit options selected

Total minimum credit value = 82 credits

Total GLH = 691 hours

Competence = minimum 268 hours/ minimum 50 credits

Knowledge = minimum 115 hours (smallest Technical Certificate)/minimum 17 credits)

Functional Skills (notional value 45 hours x 3 = 135 hours/ 15 credits)

Mentoring 72 weeks x 1 hour/week = 72 hours

PLTS = 60 hrs

ERR = 41 hrs

Year 1 = 461 hours Year 2 = 230 hours

### **Pathway 4 : Laboratory Science (Clinical Analysis) Level 2**

Pathway duration approximately 18 months depending on the qualification and unit options selected

Total minimum credit value = 69 credits

Total GLH = 637 hours

Competence = minimum 214 hours/ minimum 37 credits

Knowledge = minimum 115 hours (smallest Technical Certificate)/minimum 17 credits)

Functional Skills (notional value 45 hours x 3 = 135 hours/ 15 credits)

Mentoring 72 weeks x 1 hour/week = 72 hours

PLTS = 60 hrs

ERR = 41 hrs

Year 1 = 425 hours Year 2 = 212 hours

### **Advanced Apprenticeship (Level 3) for Laboratory and Science Technicians**

### **Pathway 1 : Laboratory and Associated Technical Activities - (Education Science) Level 3**

Pathway duration approximately 24 months depending on the qualification and unit options selected

Total minimum credit value = 88 credits

Total GLH = 812 hours

Competence = minimum 300 hours/minimum 48 credits

Knowledge = minimum 180 hours (smallest Technical/Certificate) minimum 25 credits

Functional Skills (notional value 45 hours x 3 = 135 hours / 15 credits

Mentoring 96 weeks x 1 hour/week = 96 hours

PLTS = 60 hours

ERR = 41 hours

Year 1 = 406 hours    Year 2 = 406 hours

### **Pathway 2 : Laboratory and Associated Technical Activities (Industrial Science) Level 3**

Pathway duration approximately 24 months depending on the qualification and unit options selected

Total minimum credit value = 100 credits

Total GLH = 830 hours

Competence = minimum 318 hours/minimum 60 credits

Knowledge = minimum 180 hours (smallest Technical/Certificate) /minimum 25 credits

Functional Skills (notional value 45 hours x 3 = 135 hours/15 credits

Mentoring 96 weeks x 1 hour/week = 96 hours

PLTS = 60 hours

ERR = 41 hours

Year 1 = 415 hours    Year 2 = 415 hours

### **Pathway 3 : Laboratory Science - Analytical & Process Science Level 3**

Pathway duration approximately 24 months depending on the qualification and unit options selected

Total minimum credit value = 111 credits

Total GLH = 828 hours

Competence = minimum 316 hours/minimum 71 credits

Knowledge = minimum 180 hours (smallest Technical/Certificate) /minimum 25 credits

Functional Skills (notional value 45 hours x 3 = 135 hours/15 credits)

Mentoring 96 weeks x 1 hour/week = 96 hours

PLTS = 60 hours

ERR = 41 hours

Year 1 = 414 hours    Year 2 = 414 hours

## Minimum off-the-job guided learning hours

### Intermediate Apprenticeship (Level 2) - 4 pathways

#### Pathway 1 : Laboratory and Associated Technical Activities - (Education Science) Level 2

Minimum off-the-job hours through pathway 1 is **423 GLH** and is evidenced by completion of the knowledge element, functional skills, Employment Rights and Responsibilities (ERR), PLTS and mentoring. This amounts to 66% of the total pathway GLH.

#### Pathway 2 : Laboratory and Associated Technical Activities - (Industrial Science) Level 2

Minimum off-the-job hours through pathway 2 is **423 GLH** and is evidenced by completion of the knowledge element, functional skills, Employment Rights and Responsibilities (ERR), PLTS and mentoring. This amounts to 66% of the total pathway GLH.

#### Pathway 3 : Laboratory Science (Compound Analysis) Level 2

Minimum off-the-job hours through pathway 3 is **423 GLH** and is evidenced by completion of the knowledge element, functional skills, Employment Rights and Responsibilities (ERR), PLTS and mentoring. This amounts to 66% of the total pathway GLH.

#### Pathway 4 : Laboratory Science (Clinical Analysis) Level 2

Minimum off-the-job hours through pathway 4 is **423 GLH** and is evidenced by completion of the knowledge element, functional skills, Employment Rights and Responsibilities (ERR), PLTS and mentoring. This amounts to 66% of the total pathway GLH.

### Advanced Apprenticeship (Level 3) - 3 pathways

#### Pathway 1 : Laboratory and Associated Technical Activities - (Education Science) Level 3

Minimum off-the-job hours through pathway 1 is **512 GLH** and is evidenced by completion of the knowledge element, functional skills, Employment Rights and Responsibilities (ERR), PLTS and mentoring. This amounts to 63% of the total pathway GLH.

### **Pathway 2 : Laboratory and Associated Technical Activities (Industrial Science) Level 3**

Minimum off-the-job hours through pathway 2 is **512 GLH** and is evidenced by completion of the knowledge element, functional skills, Employment Rights and Responsibilities (ERR), PLTS and mentoring. This amounts to 62% of the total pathway GLH.

### **Pathway 3 : Laboratory Science - Analytical & Process Science Level 3**

Minimum off-the-job hours through pathway 3 is **512 GLH** and is evidenced by completion of the knowledge element, functional skills, Employment Rights and Responsibilities (ERR), PLTS and mentoring. This amounts to 62% of the total pathway GLH.

## How this requirement will be met

### **Off-the-job Learning**

Apprentices following pathways within either the Intermediate or Advanced Apprenticeship will receive off-the-job learning via a combination of the under-pinning knowledge (Technical Certificate), Functional Skills and Employment Responsibilities and Rights. The Technical Certificate may be delivered either by day or block release or a combination of the two at a local Training Provider, College of FE or delivered on the employers premises (away from the immediate pressures of the workplace). There may also be a need for self study according to the specific Awarding Organisation's arrangements.

For both Functional and Key Skills delivery methods vary widely, however all methods should start with initial/early assessment of a learner's Functional Skills. Personalised learning should be based on assessing performance to date in order to inform and shape the next step in learning for that individual or group of individuals.

Both Functional and Key Skills are externally assessed and candidates need to be prepared in order to take the tests, again methods of preparation vary but the preferred method seems to be an intensive off-the-job coaching period where candidates are taught the techniques required to undertake previous test papers to become proficient. In the case of Key Skills this also provides an opportunity to examine their portfolios to ensure these are up to standard.

Employment Responsibilities and Rights (ERR) should be delivered using the guidance contained in the ERR section of this framework. It is important that all new apprentices receive a comprehensive induction programme on joining their companies and that they are aware of the evidence opportunities this presents to complete significant areas of the ERR requirements.

All three will be delivered by a combination of group-based delivery and self-study. These in combination exceed the 100 GLH / 30% rule as defined in the SASE (19. Section 27-1).

In addition there will be a company induction, group delivery of PLTS requirements (prior to each apprentice starting to record their PLTS) and it is recommended that a mentor should be appointed for each apprentice to review their progress on a regular basis. All of these activities will take place off-the-job.

The Technical Certificate, Functional Skills, and Employment Responsibilities and Rights will be formally delivered by the training provider/college staff in accordance with the awarding organisation's delivery and assessment guidance. This process is regulated and quality assured by Ofqual and Ofsted.

### Minimum on-the-job guided learning hours

#### Intermediate Apprenticeship (Level 2) - 4 pathways

##### Pathway 1 : Laboratory and Associated Technical Activities - (Education Science)

Minimum on-the-job hours through pathway 1 is 214 GLH

Year 1 = 143 GLH    Year 2 = 71 GLH

##### Pathway 2 : Laboratory and Associated Technical Activities - (Industrial Science)

Minimum on-the-job hours through pathway 2 is 245 GLH

Year 1 = 163 GLH    Year 2 = 82 GLH

##### Pathway 3 : Laboratory Science (Compound Analysis)

Minimum on-the-job hours through pathway 3 is 268 GLH

Year 1 = 179 GLH    Year 2 = 89 GLH

##### Pathway 4 : Laboratory Science (Clinical Analysis)

Minimum on-the-job hours through pathway 4 is 214 GLH

Year 1 = 143 GLH Year 2 = 71 GLH

### **Advanced Apprenticeship (Level 3) - 3 pathways**

#### **Pathway 1 : Laboratory and Associated Technical Activities - (Education Science)**

Minimum on-the-job hours through pathway 1 is 300 GLH

Year 1 = 150 GLH Year 2 = 150 GLH

#### **Pathway 2 : Laboratory and Associated Technical Activities (Industrial Science)**

Minimum on-the-job hours through pathway 2 is 318 GLH

Year 1 = 159 GLH Year 2 = 159 GLH

#### **Pathway 3 : Laboratory Science - Analytical & Process Science**

Minimum on-the-job hours through pathway 3 is 316 GLH

Year 1 = 158 GLH Year 2 = 158 GLH

## **How this requirement will be met**

### **On-the job Delivery**

The NVQ Certificate or Diploma will be delivered in accordance with the Awarding Organisation's delivery and assessment guidance, which includes the additional assessment requirements published by Semta. These additional assessment requirements are set down in Semta's Science unit assessment strategy, which can be downloaded from Semta's website:

[http://www.semta.org.uk/training\\_providers\\_awarding/national\\_occupational\\_standard/qca\\_assessment\\_requirements.aspx](http://www.semta.org.uk/training_providers_awarding/national_occupational_standard/qca_assessment_requirements.aspx) This process is regulated and quality assured by both the Awarding Organisation and Ofqual and Ofsted.

All apprentices are required to generate evidence in the workplace to demonstrate completion of the competence qualification, this may be through:

- Apprentices will generate a portfolio to record evidence of unit completion in accordance with the Awarding Organisation's requirements and this will be regularly reviewed by the assessor and mentor. A period of one hour per week has been set aside for mentors to review the ongoing progress of their apprentice.
- candidates generating portfolio evidence based on jobs undertaken will need to get this signed as having been completed by a responsible work colleague. This is then examined and agreed by the assessor as a contribution to demonstrating competence in the workplace.
- generation of portfolio evidence may be paper based, electronic with other mediums such as video evidence.
- evidence may be gathered throughout the whole apprenticeship period
- Completion of the competence qualification should be planned, reviewed and evaluated jointly between the apprentice and an appointed mentor or manager. Apprentices should receive regular reviews from the mentor and assessor in order to ensure they remain on target to complete the competence qualification in the allocated time
- Be delivered during normal contracted working hours

Examples of on-the-job guided learning in a laboratory context might be:

- Safe use of laboratory equipment and machines
- Environmental awareness
- Employability skills
- Team working and communications
- Task specific workplace instructions or team briefings
- Taught sessions by the workplace line manager/instructor
- Taught sessions off-the-job on Employee Rights and Responsibilities knowledge
- Induction where activities are covered within normal work duties
- Coaching of learners.

Training providers should also keep detailed records performance reviews, mentoring, assessment of competence, the building of portfolios, keeping diaries/logs, peer review discussions.

# Personal learning and thinking skills assessment and recognition (England)

## Summary of Personal Learning and Thinking Skills

Personal Learning and Thinking Skills (PLTS) comprise of six skill areas that are essential to being successful in an apprenticeship.

There are two methods of evidencing the completion of PLTS within this framework.

### Method 1

Ema Awards Limited (EAL) have produced a stand-alone qualification that covers all 6 skill areas of PLTS.

The qualification is detailed below:

EAL Level 2 Award in Personal Learning and Thinking Skills for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

600/2019/2

Credit value: 6 credits

Guided learning hours: 60

### Method 2

Apprentices or training providers may download the Semta PLTS Evidence Recording Document available from the Semta website

[www.semta.org.uk/docs/PLTS%20Evidence%20Recording%20Document%20100511.doc](http://www.semta.org.uk/docs/PLTS%20Evidence%20Recording%20Document%20100511.doc)

This document will be used to record the apprentices PLTS evidence from the most naturally occurring location, such as the knowledge or competency qualifications, or Functional/Key skills and ERR components of the framework.

**To claim final certification of the apprenticeship, one of the following forms of PLTS completion evidence will be required:**

A qualification certificate for the EAL Level 2 Award in Personal Learning and Thinking Skills for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

or

A completed and countersigned Semta PLTS evidence recording document

All apprentices will need to receive guidance on what PLTS are and how they will need to provide evidence for all 6 PLTS areas as detailed below. They will need to understand those aspects of each skill area as defined in the bullet points below and be able to identify opportunities to practice and evidence these skills within their apprenticeship.

The PLTS areas are interconnected so it is likely that apprentices will encounter skills from several areas in any one learning experience. For example, when an apprentice works to improve their own and team practice in the workplace they will have demonstrated team worker (collaborate with others to work towards common goals), effective participator (identify improvements that would benefit others as well as themselves) and self manager skills (work towards goals, showing initiative, commitment and perseverance).

Lecturers and/or assessors will be expected to check individual apprentices' progress in using and recording PLTS.

## Creative thinking

For Creative Thinking there is a focus statement summing up the range of skills to be mastered and this is accompanied by a set of outcome statements that are indicative of the skills, behaviours and personal qualities associated with creative thinking.

Creative Thinking involves:

- generating ideas and exploring possibilities
- asking questions to extend thinking
- connecting own and others' ideas and experiences in inventive ways
- questioning own and others' assumptions
- trying out alternatives or new solutions and following ideas through
- adapting ideas as circumstances change

## Independent enquiry

For Independent Enquiry there is a focus statement summing up the range of skills to be mastered and this is accompanied by a set of outcome statements that are indicative of the skills, behaviours and personal qualities associated with independent enquiry.

Independent Enquiry involves:

- identifying questions to answer and problems to resolve
- planning and carrying out research, appreciating the consequences of decisions
- exploring issues, events or problems from different perspectives
- analysing and evaluating information, judging its relevance and value
- considering the influence of circumstances, beliefs and feelings on decisions and events

## Reflective learning

For Reflective Learning there is a focus statement summing up the range of skills to be mastered and this is accompanied by a set of outcome statements that are indicative of the skills, behaviours and personal qualities associated with reflective learning.

Reflective Learning involves:

- assessing yourself and others, identifying opportunities and achievements
- setting goals with success criteria for your personal development and work
- reviewing progress, acting on the outcomes
- inviting feedback and dealing positively with praise, setbacks and criticism
- evaluating experiences and learning to inform your future progress
- communicating your learning in relevant ways for different audiences

## Team working

For Team Working there is a focus statement summing up the range of skills to be mastered and this is accompanied by a set of outcome statements that are indicative of the skills, behaviours and personal qualities associated with team working.

Team Working involves:

- collaborating with others to work towards common goals
- reaching agreements, managing discussions to achieve results
- adapting behaviour to suit different roles and situations, including leadership roles
- showing fairness and consideration to others
- taking responsibility, showing confidence in yourself and your contribution
- providing constructive support and feedback to others

## Self management

For Self Management there is a focus statement summing up the range of skills to be

mastered and this is accompanied by a set of outcome statements that are indicative of the skills, behaviours and personal qualities associated with self management.

Self Management involves:

- seeking out challenges or new responsibilities and showing flexibility when priorities change
- working towards goals, showing initiative, commitment and perseverance
- organising time and resources, prioritising actions
- anticipating, taking and managing risks
- dealing with competing pressures, including personal and work-related demands
- responding positively to change, seeking advice and support when needed
- managing your emotions and building and maintaining relationships

## Effective participation

For Effective Participation there is a focus statement summing up the range of skills to be mastered and this is accompanied by a set of outcome statements that are indicative of the skills, behaviours and personal qualities associated with effective participation.

Effective Participation involves:

- discussing issues of concern, seeking resolution where needed
- presenting a persuasive case for action
- proposing practical ways forward, breaking these down into manageable steps
- identifying improvements that would benefit others as well yourself
- trying to influence others, negotiating and balancing diverse views to reach workable solutions
- acting as an advocate for views and beliefs that may differ from your own

# Additional employer requirements

*(no information)*

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apprenticeship  
FRAMEWORKS ONLINE

For more information visit  
[www.apprenticeshipframeworksonline.semta.org.uk](http://www.apprenticeshipframeworksonline.semta.org.uk)