apprenticeship
FRAMEWORK

Process Manufacturing

Issued by
Cogent

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Work in progress

Apprenticeships

Process Manufacturing

Information on the Issuing Authority for this framework:

Cogent

The Apprenticeship sector for occupations in chemical manufacturing, nuclear science, oil and gas extraction (also includes process technology, bioscience, polymer and sign making).

Issue number: 1	This framework includes:
Framework ID: FR00016	Level 2 Level 3
Date this framework is to be reviewed by: 16/07/2012	This framework is for use in: **England**

Short description

The Process Manufacturing Apprenticeship Framework provides work based training for young people and adults to undertake key technical, operational and maintenance roles in the Chemical, Petro-chemical, Pharmaceutical, Refinery and other related process industries.

There are two levels of Apprenticeship contained in this framework:
• The Intermediate Level Apprenticeship (Level 2) in Process Manufacturing (usually takes 15 to 24 months to complete)
• The Advanced Level Apprenticeship (Level 3) in Process Manufacturing (usually takes 24 to 36 months to complete)

The framework contains details of vocational qualifications, knowledge based technical qualifications, Functional Skills (Maths, English, ICT), Personal Learning and Thinking Skills and employee rights and responsibilities required for an apprenticeship in Process Manufacturing.

Apprentices undertake training on-the-job at their workplace and off-the job usually delivered by a local training provider or Further Education College.

Further information on the types of apprenticeships and completion times can be found in other sections of this document.

Contact information

Proposer of this framework

(no information)

Developer of this framework

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Purpose of this framework

Summary of the purpose of the framework

This framework has been designed to meet the requirements for the type of work undertaken in the process manufacturing industries. The process manufacturing industries produce many of life's necessities including products like pharmaceuticals, soap and toiletries whilst the refining industries (also known as Downstream) are responsible for turning crude oil into fuels and lubricants.

The process manufacturing industries face many considerable challenges: competition from companies all over the globe, the requirement to be safe, clean and sustainable and ever increasing public expectations for new and better products. Technology, science and engineering underpin the success of process manufacturing industries. Research engaging employers and stakeholders has shown that there is an ongoing demand for highly skilled and flexible scientists, engineers, production operatives, managers and leaders. With an ageing workforce and a decline in the number of technically trained people coming through the system, meeting this demand has become an imperative. (Cogent Sector Skills Assessment: www.cogent-ssc.com/research)

There are insufficient operators and technicians entering these industries to meet forecasted future demand. The framework is designed to meet the needs of the process manufacturing industries by providing the future skilled operators and technicians that will have the vocational skills and knowledge to meet the challenges listed above.

After undergoing this Intermediate Level/ Advanced Level Apprenticeship skilled operators and technicians could find themselves working in a variety of roles that aid production. A process operator or technician would start up, control, monitor and shut down the systems and machinery involved in production. A maintenance technician would keep the equipment in good working order. A refinery operator/ technician would monitor and assist in the production of refinery products.

Aims and objectives of this framework (England)

Aim

To provide a skilled technical workforce for the process manufacturing industries that will enable them to compete in a global market.

The objectives of this framework are:

1. To provide the skilled operators and technicians to meet future demand forecasted by the process manufacturing industries.

2. To provide a structured training framework that will provide the skills needed to operate, control and maintain plant and equipment.

3. To provide a development framework for existing staff in the process manufacturing industries to up-skill their current vocational skills and knowledge that will enable them to meet the future challenges of new technologies and changing production processes.

4. To provide progression opportunities for apprentices both within the process manufacturing industries and employment in other sectors as well as for those wishing to engage in further study in Further or Higher Education.

5. To attract new talent into the process manufacturing industries from a range of backgrounds, in order to meet industry requirements.

Entry conditions for this framework

Apprenticeship applicants will be expected to attend an interview with the employer/ training provider to assess their suitability for entry on to the framework. The interview provides an opportunity to talk directly to the applicant and discuss an individual's previous learning and experience. From this interview the employer will be able to decide whether a candidate is suitable using some of the following guidance.

Intermediate Level Apprenticeship

The Intermediate Level Apprenticeship in Process Manufacturing is open to all people aged 16 or over. Due to the competition for places the following skills and attributes relevant to working within the process industries may be considered as part of the application process;

- motivation to succeed within industry
- an awareness of the demands of the Apprenticeship
- willingness to comply with employer/training provider terms and conditions of employment
- have the ability to apply learning in the workplace
- willingness to work with due regard to Health and Safety of self and others
- effective communication with a range of people.

The following examples of evidence can be used to support some of the above statements, such as;
• previous work experience or employment *or*
• voluntary or community based work *or*
• achievement of GCSEs (A*-E) or equivalent qualifications in Maths, English and Science *or*
• achievement of a Foundation/ Higher Diploma in Manufacturing & Product Design or Foundation/ Higher Diploma in Engineering *or*
• achievement of Awards, Certificates or Diplomas in a related industry such as Science or Engineering *or*
• proof of completion of non-accredited courses.

Advanced Level Apprenticeship

The Advanced Level Apprenticeship in Process Manufacturing is open to all people aged 16 or over. Due to the competition for places the following skills and attributes relevant to working within the process manufacturing industries may be considered as part of the application process;
• motivation to succeed within industry
• an awareness of the demands of the Apprenticeship
• willingness to comply with employer/training provider terms and conditions of employment
• have the ability to apply learning in the workplace
• willingness to work with due regard to Health and Safety of self and others
• effective communication with a range of people.

The following examples of evidence can be used to support some of the above statements, such as;
• progression from a Process Manufacturing Intermediate Level Apprenticeship or an Intermediate Level Apprenticeship in a related discipline *or*
• previous work experience or employment *or*
• voluntary or community based work *or*
• achievement of GCSEs (A*-C) or equivalent qualifications in Maths, English and Science *or*
• achievement of a Higher/ Advanced Diploma in Manufacturing & Product Design or a Higher/ Advanced Diploma in Engineering *or*
• achievement of Awards, Certificates or Diplomas in a related industry such as Science or Engineering *or*
• proof of completion of non-accredited courses.

All Apprenticeship applicants should be aware of the varied working conditions that may include;

- working at heights
- shiftwork (including nights and weekends)
- 365 day operations
- working outdoors
- wearing specialist safety equipment
- working within high hazard environment.

Level 2

Title for this framework at level 2

Intermediate Level Apprenticeship in Process Manufacturing

Pathways for this framework at level 2

Pathway 1:	Process Operations
Pathway 2:	Process Engineering Maintenance

Level 2, Pathway 1: Process Operations

Description of this pathway

Process Manufacturing (Process Operator)

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

None

Job title(s)	Job role(s)
Process Operator	Operate and monitor basic plant and equipment, including pumps, valves, temperature gauges, filtration equipment, tanks and vessels.

Qualifications

Competence qualifications available to this pathway

C1 - Level 2 NVQ Diploma in Processing Industries Operations (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	500/7759/4	PAA\VQSET	41	256	N/A

C2 - Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	500/7756/9	PAA\VQSET	29	182	N/A

Knowledge qualifications available to this pathway

K1 - Level 2 Diploma in Process Technology (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	600/0820/9	City & Guilds of London Institute	54	400	N/A

Combined qualifications available to this pathway

N/A

Notes on competence and knowledge qualifications (if any)

K1 will provide the underpinning knowledge and understanding for C1 or C2

The decision on which competence qualification the apprentice will undertake will be made by the training provider and employer, based on the experience of the apprentice, future job role requirements and the complexity of the employer's operations.

The credit values and guided learning hours quoted in the above tables are the minimum for the qualification as stated on the Register of Regulated Qualifications. These credit values and guided learning hours may vary according to specific pathways/ options taken within qualifications. For further details please refer to the Register of Regulated Qualifications (http://register.ofqual.gov.uk/).

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 (with enhanced functional content)	E	5
Key Skills qualification in Literacy 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*	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*	E	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)

(no information)

Progression routes into and from this pathway

Progression into this pathway:

There are no pre-defined routes of entry into the Intermediate Level Apprenticeship in Process Manufacturing, however, new entrants to the industry may be looking to progress from the following areas:

• Work based qualifications such as NVQs/ SVQs or vocationally related qualifications in a subject related to Process Manufacturing. (Examples may include: BTEC's, City & Guilds, PAA/VQ-SET Diplomas/ Certificates/ Awards)

• GCSEs in Science, Maths or Engineering also provide a strong platform for progression on to the framework.

• Foundation/ Higher Diplomas in Engineering or Manufacturing & Product Design also provide an excellent opportunity for progression into Process Manufacturing.

• Previous experience in the process manufacturing industries or a related discipline can also

be an appropriate route of entry.

Progression from this pathway:

Following completion of this Intermediate Level Apprenticeship there are several options open to the successful candidate who wishes to continue their development in order to progress their career. There are opportunities to continue to undertake further vocational training or academic qualifications. These may include (but are not exclusive to) the following:

- Advanced Level Apprenticeship in Process Manufacturing
- Higher/ Advanced Diploma in Engineering or Higher/ Advanced Diploma in Manufacturing and Product Design
- Developing a career in coaching through undertaking Assessor and Verifier Awards
- Qualifications in a related area, including (but not limited to) Health & Safety, Training & Development, Business Improvement Techniques and Supervisory Management.
- Cogent Gold Standard qualifications contained within the Gold Standard frameworks (www.cogent-prospectus.com)

Successful completion of the Intermediate Level Apprenticeship could lead to one of the following job roles:

Chemicals

- Process Operator

- **Pharmaceutical**
- Process Operator

Downstream

- Refinery Process Operator

For a more in-depth look at careers within the Cogent Industries, please look at our careers pathway website www.cogent-careers.com

Delivery and assessment of employee rights and responsibilities

This Employee Rights and Responsibilities (ERR) section has no QCF Credit Value

It is important that all employees understand and can demonstrate an understanding of their rights and responsibilities as an employee.

The Cogent Employee's Rights and Responsibilities (ERR) Workbook and Assessment Document has been designed to assist employers and training providers and should be used to deliver this mandatory element of the Apprenticeship Framework.

The content is as follows: -

1. Statutory rights and responsibilities under Employment Law.
2. Procedures and documentation that affect the relationship between employee and employer.
3. Sources of information and advice on employment rights and responsibilities.
4. The role played by an Apprentice's occupation in the organisation and industry.
5. Career pathways open to an Apprentice.
6. The types of representative bodies relevant to the industry and organisation and their main roles and responsibilities.
7. Where and how to get advice on the industry, occupation, training and careers.
8. Organisational principles and codes of practice.
9. Issues of public concern that affect the organisation and industry.

It is essential that the Apprentice can demonstrate competence in ERR and, as a result, is required to provide documentary evidence confirming their achievements. Examples of how the evidence can be gathered by individuals include;

- completing a company induction,
- attending relevant taught off-the-job training sessions
- on-the-job assessment.

When applying for the Intermediate Level Apprenticeship/ Advanced Level Apprenticeship Certificate, the training provider or employer will provide evidence that ERR has been achieved by submitting a copy of the completed assessment document, signed by both the apprentice and the assessor.

Time spent on ERR will contribute towards meeting the minimum 280 GLH per year requirement (England). (Please see section on Guided Learning Hours on-the-job/off-the-job)

Upon progression from an Intermediate Level Apprenticeship to an Advanced Level Apprenticeship in Process Manufacturing, apprentices would be exempt from this requirement provided that they are still with the same employer.

To obtain a copy of the workbook and assessment document, please visit the Apprenticeships section of the Cogent website at www.cogent-ssc.com.

Level 2, Pathway 2: Process Engineering Maintenance

Description of this pathway

Process Manufacturing (Process Engineering Maintenance)

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

None

Job title(s)	Job role(s)
Process Engineering Maintenance Operative	Carry out routine maintenance and repair of basic plant and equipment, including pumps, valves, temperature gauges, filtration equipment, tanks and vessels.

Qualifications

Competence qualifications available to this pathway

C1 - Level 2 NVQ Certificate in Process Engineering Maintenance (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/0209/6	PAA\VQSET	28	162	N/A

C2 - Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	500/7756/9	PAA\VQSET	29	182	N/A

Knowledge qualifications available to this pathway

K1 - BTEC Level 2 Extended Certificate in Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/7577/9	Edexcel	30	180	N/A

K2 - BTEC Level 2 Diploma in Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7576/7	Edexcel	60	360	N/A

Combined qualifications available to this pathway

N/A

Notes on competence and knowledge qualifications (if any)

K1 or K2 will provide the underpinning knowledge and understanding for C1 or C2.

The decision on which competence qualification and which knowledge qualification the apprentice will undertake will be made by the training provider and employer, based on the experience of the apprentice, future job role requirements and the complexity of the employer's operations.
It is possible to achieve this apprenticeship by undertaking the minimum knowledge qualification of 180 Guided Learning Hours. The knowledge qualification of 360 Guided Learning Hours will provide a more in-depth technical knowledge if required.

Within the PAA\VQSET Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF) learners may achieve one of the following pathways: Maintenance Support or Support Services.

For the Maintenance Support Pathway learners must achieve a minimum of 34 Credits by completing all 8 Mandatory Units, all 4 Maintenance Support Mandatory Units and 2 Optional Units.

For the Support Services Pathway learners must achieve a minimum of 29 Credits by completing all 8 Mandatory Units and 6 Optional Units.

Knowledge and competence units must always be taken in combination.

The credit values and guided learning hours quoted in the above tables are the minimum for the qualification as stated on the Register of Regulated Qualifications. These credit values and guided learning hours may vary according to specific pathways/ options taken within qualifications. For further details please refer to the Register of Regulated Qualifications (http://register.ofqual.gov.uk/).

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 (with enhanced functional content)	E	5
Key Skills qualification in Literacy 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*	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*	E	N/A
GCSE or O'Level qualification in ICT**	A	N/A
A' Level or AS Level qualification in ICT**	A	N/A

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

Inclusion of Information and Communications Technology (ICT)

(no information)

Progression routes into and from this pathway

Progression into this pathway:

There are no pre-defined routes of entry into the Intermediate Level Apprenticeship in Process Manufacturing, however, new entrants to the industry may be looking to progress from the following areas:

• Work based qualifications such as NVQs/ SVQs or vocationally related qualifications in a subject related to Process Manufacturing. (Examples may include: BTEC's, City & Guilds, PAA/VQ-SET Diplomas/ Certificates/ Awards)

• GCSEs in Science, Maths or Engineering also provide a strong platform for progression on to the framework.

• Foundation/ Higher Diplomas in Engineering or Manufacturing & Product Design also provide an excellent opportunity for progression into Process Manufacturing.

• Previous experience in the process manufacturing industries or a related discipline can also be an appropriate route of entry.

Progression from this pathway:

Following completion of this Intermediate Level Apprenticeship there are several options open to the successful candidate who wishes to continue their development in order to progress their career. There are opportunities to continue to undertake further vocational training or academic qualifications. These may include (but are not exclusive to) the following:

- Advanced Level Apprenticeship in Process Manufacturing
- Higher/Advanced Diploma in Engineering or Higher/Advanced Diploma in Manufacturing and Product Design
- Developing a career in coaching through Assessor and Verifier Awards
- Qualifications in a related area, including (but not limited to) Health & Safety, Training & Development, Business Improvement Techniques and Supervisory Management.
- Cogent Gold Standard qualifications contained within the Gold Standard frameworks (www.cogent-prospectus.com)

Successful completion of the Intermediate Level Apprenticeship could lead to one of the following job roles:

Chemicals

- Process Operator (multiskilled)
- Process Engineering Maintenance Operative (Electrical, Mechanical & Instrumentation)

Pharmaceutical

- Process Operator (multiskilled)
- Process Engineering Maintenance Operative (Electrical, Mechanical & Instrumentation)

Downstream

- Refinery Process Operator (multiskilled)
- Process Engineering Maintenance Operative (Electrical, Mechanical & Instrumentation)

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Delivery and assessment of employee rights and responsibilities

This Employee Rights and Responsibilities (ERR) section has no QCF Credit Value

It is important that all employees understand and can demonstrate an understanding of their rights and responsibilities as an employee.

The Cogent Employee's Rights and Responsibilities (ERR) Workbook and Assessment Document has been designed to assist employers and training providers and should be used to deliver this mandatory element of the Apprenticeship Framework.
The content is as follows: -

1. Statutory rights and responsibilities under Employment Law.
2. Procedures and documentation that affect the relationship between employee and employer.
3. Sources of information and advice on employment rights and responsibilities.
4. The role played by an Apprentice's occupation in the organisation and industry.
5. Career pathways open to an Apprentice.
6. The types of representative bodies relevant to the industry and organisation and their main roles and responsibilities.
7. Where and how to get advice on the industry, occupation, training and careers.
8. Organisational principles and codes of practice.
9. Issues of public concern that affect the organisation and industry.

It is essential that the Apprentice can demonstrate competence in ERR and, as a result, is required to provide documentary evidence confirming their achievements. Examples of how the evidence can be gathered by individuals include;
• completing a company induction,
• attending relevant taught off-the-job training sessions
• on-the-job assessment.

When applying for the Intermediate Level Apprenticeship/ Advanced Level Apprenticeship Certificate, the training provider or employer will provide evidence that ERR has been achieved by submitting a copy of the completed assessment document, signed by both the apprentice and the assessor.

Time spent on ERR will contribute towards meeting the minimum 280 GLH per year requirement (England). (Please see section on Guided Learning Hours on-the-job/off-the-job)

Upon progression from an Intermediate Level Apprenticeship to an Advanced Level Apprenticeship in Process Manufacturing, apprentices would be exempt from this requirement provided that they are still with the same employer.

To obtain a copy of the workbook and assessment document, please visit the Apprenticeships section of the Cogent website at www.cogent-ssc.com.

Level 3

Title for this framework at level 3

Advanced Level Apprenticeship in Process Manufacturing

Pathways for this framework at level 3

Pathway 1:	Process Operator/ Technician
Pathway 2:	Process Engineering Maintenance
Pathway 3:	Downstream Operations

Level 3, Pathway 1: Process Operator/ Technician

Description of this pathway

Process Manufacturing (Process Operator/ Technician)

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

None

Job title(s)	Job role(s)
Process Operator/Technican	Operate, monitor and control complex continuous and batch plant and equipment including reactors, heat exchangers, distillation columns and control equipment

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 NVQ Diploma in Processing Industries Operations (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	500/7802/1	PAA\VQSET	48	285	N/A

C2 - Level 3 Diploma in Operations and Technical Support in the Process Industries (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	500/7757/0	PAA\VQSET	42	246	N/A

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/7315/1	Edexcel	120	720	N/A

K2 - BTEC Level 3 Diploma in Applied Science (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/6673/0	Edexcel	120	720	N/A

Knowledge qualifications available to this pathway(cont.)

K3 - Level 3 Diploma in Process Technology (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	600/1066/6	City and Guilds of London Institute	54	460	N/A

Combined qualifications available to this pathway

N/A

Notes on competence and knowledge qualifications (if any)

K1 or K2 or K3 will provide the underpinning knowledge and understanding for C1 or C2.

The decision on which competence qualification and which knowledge qualification the apprentice will undertake will be made by the training provider and employer, based upon the experience of the apprentice, future job role requirements and the complexity of the employer's operations.
It is possible to achieve this advanced apprenticeship by undertaking the minimum knowledge qualification of 460 Guided Learning Hours. The knowledge qualification of 720 Guided Learning Hours will provide a more in-depth technical knowledge if required.

The credit values and guided learning hours quoted in the above tables are the minimum for the qualification as stated on the Register of Regulated Qualifications. These credit values and guided learning hours may vary according to specific pathways/ options taken within qualifications. For further details please refer to the Register of Regulated Qualifications (http://register.ofqual.gov.uk/).

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 (with enhanced functional content)	C	5
Key Skills qualification in Literacy 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*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	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

** 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*	E	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)

(no information)

Progression routes into and from this pathway

Progression into this pathway:
There are no pre-defined routes of entry into the Advanced Level Apprenticeship in Process Manufacturing, however, new entrants to the industry may be looking to progress from the following areas:

• Completion of an Intermediate Level Apprenticeship in Process Manufacturing or a related discipline
• Work based qualifications such as NVQs/ SVQs or vocationally related qualifications in a subject related to Process Manufacturing. (Examples may include: BTEC's, City & Guilds, PAA/VQ-SET Diplomas/ Certificates/ Awards)
• GCSEs or A' Levels in Science, Maths or Engineering also provide a strong platform for progression on to the framework.
• Higher/ Advanced Diplomas in Engineering or Manufacturing & Product Design also provide an excellent opportunity for progression into Process Manufacturing.
• Previous experience in the process manufacturing industries or a related discipline can also be an appropriate route of entry.

Progression from this pathway:
Following completion of this Advanced Level Apprenticeship there are several options open to the successful candidate who wishes to continue their development in order to progress their career. There are opportunities to continue to undertake further vocational training or academic qualifications. These may include (but are not exclusive to) the following:

• Foundation Degree in Process & Chemical Engineering or a related discipline
• Higher National Certificate/ Diploma in Chemical Engineering or a related discipline
• Advanced Diploma in Engineering or Advanced Diploma in Manufacturing and Product Design
• Developing a career in coaching through Assessor and Verifier Awards
• Qualifications in a related area, including (but not limited to) Health & Safety, Training & Development, Business Improvement Techniques and Supervisory Management
• Membership of a professional institution at Engineering Technician level (Further information available at www.engineeringuk.com)
• Cogent Gold Standard qualifications contained within the Gold Standard frameworks (www.cogent-prospectus.com)

Successful completion of the Advanced Level Apprenticeship could lead to one of the following job roles:

Chemicals

- Process Operator/ Technician or Control Room Operator/ Technician

Pharmaceutical

- Process Operator/ Technician or Control Room Operator/ Technician

For a more in-depth look at careers within the Cogent Industries, please look at our careers pathway website www.cogent-careers.com

UCAS points for this pathway: Not applicable

Delivery and assessment of employee rights and responsibilities

This Employee Rights and Responsibilities (ERR) section has no QCF Credit Value.

It is important that all employees understand and can demonstrate an understanding of their rights and responsibilities as an employee.

The Cogent Employee's Rights and Responsibilities (ERR) Workbook and Assessment Document has been designed to assist employers and training providers and should be used to deliver this mandatory element of the Apprenticeship Framework.
The content is as follows: -

1. Statutory rights and responsibilities under Employment Law.
2. Procedures and documentation that affect the relationship between employee and employer.
3. Sources of information and advice on employment rights and responsibilities.
4. The role played by an Apprentice's occupation in the organisation and industry.
5. Career pathways open to an Apprentice.
6. The types of representative bodies relevant to the industry and organisation and their main roles and responsibilities.
7. Where and how to get advice on the industry, occupation, training and careers.
8. Organisational principles and codes of practice.
9. Issues of public concern that affect the organisation and industry.

It is essential that the Apprentice can demonstrate competence in ERR and, as a result, is required to provide documentary evidence confirming their achievements. Examples of how the evidence can be gathered by individuals include;
• completing a company induction,
• attending relevant taught off-the-job training sessions
• on-the-job assessment.

When applying for the Intermediate Level Apprenticeship/ Advanced Level Apprenticeship Certificate, the training provider or employer will provide evidence that ERR has been achieved by submitting a copy of the completed assessment document, signed by both the apprentice and the assessor.

Time spent on ERR will contribute towards meeting the minimum 280 GLH per year requirement (England). (Please see section on Guided Learning Hours on-the-job/off-the-job)

Upon progression from an Intermediate Level Apprenticeship to an Advanced Level Apprenticeship in Process Manufacturing, apprentices would be exempt from this requirement provided that they are still with the same employer.

To obtain a copy of the workbook and assessment document, please visit the Apprenticeships section of the Cogent website at www.cogent-ssc.com.

Level 3, Pathway 2: Process Engineering Maintenance

Description of this pathway

Process Manufacturing (Process Engineering Maintenance).

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

None

Job title(s)	Job role(s)
Process Engineering Maintenance Craftsperson/ Technician	Carry out complex repair/ service/ installation of plant and equipment including pumps, valves, pipework, reactors, heat exchangers and columns.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 NVQ Diploma in Process Engineering Maintenance (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/0211/4	PAA\VQSET	65	349	N/A

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Diploma in Engineering (Specialist: Operations and Maintenance) (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/8163/9	Edexcel	60	360	N/A

K2 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7315/1	Edexcel	120	720	N/A

K3 - BTEC Level 3 Diploma in Electrical/ Electronic Engineering (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/8098/2	Edexcel	120	720	N/A

Combined qualifications available to this pathway

N/A

Notes on competence and knowledge qualifications (if any)

K1 or K2 or K3 will provide the underpinning knowledge and understanding for C1

The decision on which knowledge qualification the apprentice will undertake will be made by the training provider and employer, based on the experience of the apprentice, future job role requirements and the complexity of the employer's operations. It is possible to achieve this advanced apprenticeship by undertaking the minimum knowledge qualification of 360 Guided Learning Hours. The knowledge qualification of 720 Guided Learning Hours will provide a more in-depth technical knowledge if required.

The credit values and guided learning hours quoted in the above tables are the minimum for the qualification as stated on the Register of Regulated Qualifications. These credit values and guided learning hours may vary according to specific pathways/ options taken within qualifications. For further details please refer to the Register of Regulated Qualifications (http://register.ofqual.gov.uk/).

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 (with enhanced functional content)	C	5
Key Skills qualification in Literacy 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*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	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

** 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*	E	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)

(no information)

Progression routes into and from this pathway

Progression into this pathway:
There are no pre-defined routes of entry into the Advanced Level Apprenticeship in Process Manufacturing, however, new entrants to the industry may be looking to progress from the following areas:

• Completion of an Intermediate Level Apprenticeship in Process Manufacturing or a related discipline
• Work based qualifications such as NVQs/ SVQs or vocationally related qualifications in a subject related to Process Manufacturing. (Examples may include: BTEC's, City & Guilds, PAA/VQ-SET Diplomas/ Certificates/ Awards)
• GCSEs or A' Levels in Science, Maths or Engineering also provide a strong platform for progression on to the framework.
• Higher / Advanced Diplomas in Engineering or Manufacturing & Product Design also provide an excellent opportunity for progression into Process Manufacturing.
• Previous experience in the process manufacturing industries or a related discipline can also be an appropriate route of entry.

Progression from this pathway:
Following completion of this Advanced Level Apprenticeship there are several options open to the successful candidate who wishes to continue their development in order to progress their career. There are opportunities to continue to undertake further vocational training or academic qualifications. These may include (but are not exclusive to) the following:

• Foundation Degree in Process & Chemical Engineering or a related discipline
• Higher National Certificate/ Diploma in Chemical Engineering or a related discipline
• Advanced Diploma in Engineering or Advanced Diploma in Manufacturing and Product Design
• Developing a career in coaching through Assessor and Verifier Awards
• Qualifications in a related area, including (but not limited to) Health & Safety, Training & Development, Business Improvement Techniques and Supervisory Management
• Membership of a professional institution at Engineering Technician level (Further information available at www.engineeringuk.com)
• Cogent Gold Standard qualifications contained within the Gold Standard frameworks (www.cogent-prospectus.com)

Successful completion of the Advanced Level Apprenticeship could lead to one of the following job roles:

Chemicals
- Process Operators/Technicians (multiskilled)
- Process Engineering Maintenance Technicians (Electrical, Mechanical & Instrumentation)

Pharmaceutical
- Process Operators/Technicians (multiskilled)
- Process Engineering Maintenance Technicians (Electrical, Mechanical & Instrumentation)

Downstream
- Refinery Process Operators/Technicians (multiskilled)
- Process Engineering Maintenance Technicians (Electrical, Mechanical & Instrumentation)

For a more in-depth look at careers within the Cogent Industries, please look at our careers pathway website www.cogent-careers.com

UCAS points for this pathway: Not applicable

Delivery and assessment of employee rights and responsibilities

This Employee Rights and Responsibilities (ERR) section has no QCF Credit Value.

It is important that all employees understand and can demonstrate an understanding of their rights and responsibilities as an employee.

The Cogent Employee's Rights and Responsibilities (ERR) Workbook and Assessment Document has been designed to assist employers and training providers and should be used to deliver this mandatory element of the Apprenticeship Framework.
The content is as follows: -

1. Statutory rights and responsibilities under Employment Law.
2. Procedures and documentation that affect the relationship between employee and employer.
3. Sources of information and advice on employment rights and responsibilities.
4. The role played by an Apprentice's occupation in the organisation and industry.
5. Career pathways open to an Apprentice.
6. The types of representative bodies relevant to the industry and organisation and their main roles and responsibilities.
7. Where and how to get advice on the industry, occupation, training and careers.
8. Organisational principles and codes of practice.
9. Issues of public concern that affect the organisation and industry.

It is essential that the Apprentice can demonstrate competence in ERR and, as a result, is required to provide documentary evidence confirming their achievements. Examples of how the evidence can be gathered by individuals include;
• completing a company induction,
• attending relevant taught off-the-job training sessions
• on-the-job assessment.

When applying for the Intermediate Level Apprenticeship/ Advanced Level Apprenticeship Certificate, the training provider or employer will provide evidence that ERR has been achieved by submitting a copy of the completed assessment document, signed by both the apprentice and the assessor.

Time spent on ERR will contribute towards meeting the minimum 280 GLH per year requirement (England). (Please see section on Guided Learning Hours on-the-job/off-the-job)

Upon progression from an Intermediate Level Apprenticeship to an Advanced Level Apprenticeship in Process Manufacturing, apprentices would be exempt from this requirement provided that they are still with the same employer.

To obtain a copy of the workbook and assessment document, please visit the Apprenticeships section of the Cogent website at www.cogent-ssc.com.

Level 3, Pathway 3: Downstream Operations

Description of this pathway

Process Manufacturing (Downstream Operations)

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

None

Job title(s)	Job role(s)
Downstream Field Operator/ Technician	Operate and control complex plant and equipment including distillation columns, catalytic crackers and ancillary plant outside the control room
Refinery Control Room Operator/ Technician	Operate and control complex plant and equipment including distillation columns, catalytic crackers and ancillary plant from inside the control room.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Downstream Control Room Operations (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	500/6695/X	PAA\VQSET	72	429	N/A

C2 - Level 3 Diploma in Downstream Field Operations (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	500/6693/6	PAA\VQSET	69	406	N/A

Knowledge qualifications available to this pathway

K1 - Level 3 Diploma in Process Technology (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	600/1066/6	City and Guilds of London Institute	54	460	N/A

Combined qualifications available to this pathway

N/A

Notes on competence and knowledge qualifications (if any)

K1 will provide the underpinning knowledge and understanding for C1 or C2

The decision on which competence qualification the apprentice will undertake will be made by the training provider and employer based on the experience of the apprentice, future job role requirements and the complexity of the employer's operations.

The credit values and guided learning hours quoted in the above tables are the minimum for the qualification as stated on the Register of Regulated Qualifications. These credit values and guided learning hours may vary according to specific pathways/ options taken within qualifications. For further details please refer to the Register of Regulated Qualifications (http://register.ofqual.gov.uk/).

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 (with enhanced functional content)	C	5
Key Skills qualification in Literacy 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*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	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

* *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*	E	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)

(no information)

Progression routes into and from this pathway

Progression into this pathway:
There are no pre-defined routes of entry into the Advanced Level Apprenticeship in Process Manufacturing, however, new entrants to the industry may be looking to progress from the following areas:

• Completion of an Intermediate Level Apprenticeship in Process Manufacturing
• Work based qualifications such as NVQs/ SVQs or vocationally related qualifications in a subject related to Process Manufacturing. (Examples may include: BTEC's, City & Guilds, PAA/VQ-SET Diplomas/ Certificates/ Awards)
• GCSEs or A' Levels in Science, Maths or Engineering also provide a strong platform for progression on to the framework.
• Higher / Advanced Diplomas in Engineering or Manufacturing & Product Design also provide an excellent opportunity for progression into Process Manufacturing.
• Previous experience in the process manufacturing industries or a related discipline can also be an appropriate route of entry.

Progression from this pathway:
Following completion of this Advanced Level Apprenticeship there are several options open to the successful candidate who wishes to continue their development in order to progress their career. There are opportunities to continue to undertake further vocational training or academic qualifications. These may include (but are not exclusive to) the following:

• Foundation Degree in Process & Chemical Engineering or a related discipline
• Higher National Certificate/ Diploma in Chemical Engineering or a related discipline
• Advanced Diploma in Engineering or Advanced Diploma in Manufacturing and Product Design
• Developing a career in coaching through Assessor and Verifier Awards
• Qualifications in a related area, including (but not limited to) Health & Safety, Training & Development, Business Improvement Techniques and Supervisory Management
• Membership of a professional institution at Engineering Technician level (Further information available at www.engineeringuk.com)
• Cogent Gold Standard qualifications contained within the Gold Standard frameworks (www.cogent-prospectus.com)

Successful completion of the Advanced Level Apprenticeship could lead to one of the following job roles:

Downstream

• Refinery Control Room Operator/ Technician or Downstream Field Operator/Technician

Chemicals/ Petrochemicals

• Process Operator/Technician or Control Room Operator/ Technician

For a more in-depth look at careers within the Cogent Industries, please look at our careers pathway website www.cogent-careers.com

UCAS points for this pathway: Not applicable

Delivery and assessment of employee rights and responsibilities

This Employee Rights and Responsibilities (ERR) section has no QCF Credit Value.

It is important that all employees understand and can demonstrate an understanding of their rights and responsibilities as an employee.

The Cogent Employee's Rights and Responsibilities (ERR) Workbook and Assessment Document has been designed to assist employers and training providers and should be used to deliver this mandatory element of the Apprenticeship Framework.
The content is as follows: -

1. Statutory rights and responsibilities under Employment Law.
2. Procedures and documentation that affect the relationship between employee and employer.
3. Sources of information and advice on employment rights and responsibilities.
4. The role played by an Apprentice's occupation in the organisation and industry.
5. Career pathways open to an Apprentice.
6. The types of representative bodies relevant to the industry and organisation and their main roles and responsibilities.
7. Where and how to get advice on the industry, occupation, training and careers.
8. Organisational principles and codes of practice.
9. Issues of public concern that affect the organisation and industry.

It is essential that the Apprentice can demonstrate competence in ERR and, as a result, is required to provide documentary evidence confirming their achievements. Examples of how the evidence can be gathered by individuals include;
• completing a company induction,
• attending relevant taught off-the-job training sessions
• on-the-job assessment.

When applying for the Intermediate Level Apprenticeship/ Advanced Level Apprenticeship Certificate, the training provider or employer will provide evidence that ERR has been achieved by submitting a copy of the completed assessment document, signed by both the apprentice and the assessor.

Time spent on ERR will contribute towards meeting the minimum 280 GLH per year requirement (England). (Please see section on Guided Learning Hours on-the-job/off-the-job)

Upon progression from an Intermediate Level Apprenticeship to an Advanced Level Apprenticeship in Process Manufacturing, apprentices would be exempt from this requirement provided that they are still with the same employer.

To obtain a copy of the workbook and assessment document, please visit the Apprenticeships section of the Cogent website at www.cogent-ssc.com.

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

How equality and diversity will be met

The Process Manufacturing Apprenticeship aims to promote diversity, opportunity and inclusion by offering high-quality, learning opportunities.

The delivery of the Apprenticeship Framework must be in environments free from prejudice and discrimination where all learners can contribute fully and freely and feel valued.

There must be no overt or covert discriminatory practices in selection and recruitment of Apprentices to the programme, which is available to all people, regardless of gender, ethnic origin, religion/belief, sexual orientation or disability who meet the stated selection criteria.

Issues

Gender: there is an under-representation of women within the sector, 28%.

Ethnicity: representation of ethnic minority groups is approximately 6% of the workforce .

Age: in the process industries, there is an ageing workforce with less than 4% of process operators under 25 years.

Barriers

Geographical location of traditional process industries is away from areas with high concentrations of ethnic minorities. Whilst the modern process industries are efficient, clean and have a good safety record, there is still a misconception that the work is dirty and dangerous. Careers advice regarding entry in to the industry is often poor. Staff turnover is limited due to high retention rates.

Actions

Cogent have introduced a series of industry specific case studies and Careers Pathways on the Cogent Careers web site (www.cogent-careers.com) to encourage people from all backgrounds to enter the process industries.

Cogent regularly attend regional/ national careers fairs/ skills events to promote apprenticeships, providing an ideal opportunity to address issues faced by women and ethnic minorities.

Cogent are also working with representative groups such as the United Kingdom Resource Centre, engaging with their Women in Science and Engineering Work programmes.

On and off the job guided learning (England)

Total GLH for each pathway

Legal Requirement:
The Specification of Apprenticeship Standards for England (SASE) states that apprentices must complete a minimum of 280 Guided Learning Hours (GLH) per year when undertaking either an Intermediate Level Apprenticeship or Advanced Level Apprenticeship. A minimum of 100 GLH (or 30% of GLH whichever is the greater) must be completed each year of the Intermediate Level Apprenticeship or Advanced Level Apprenticeship away from the apprentices area of work ('off-the-job').

Definition:
• 'on-the-job' = Time spent learning in the workplace
• 'off-the-job' = Time spent away from the area of work. This could be time spent with a training provider or Further Education College or completing functional skills.

To understand the overall make up of the GLH within a pathway, the 'off-the-job' pathways below should be linked to their corresponding 'on-the-job' pathways described later on in this document.

The total amounts of Guided Learning Hours for each pathway within the Process Manufacturing Apprenticeship Framework are as follows:

Total GLH for Intermediate Level (Level 2) Pathways

Intermediate Level Process Operations Pathway 1a: 886 Total GLH
PAA\VQSET Level 2 NVQ Diploma in Processing Industries Operations (QCF) (256 GLH)
City and Guilds Level 2 Diploma in Process Technology (QCF) (400 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 24 months to complete.

Intermediate Level Process Operations Pathway 1b: 812 Total GLH
PAA\VQSET Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF) (182 GLH)
City and Guilds Level 2 Diploma in Process Technology (QCF) (400 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 24 months to complete

Intermediate Level Process Engineering Maintenance Pathway 2a: 572 Total GLH
PAA\VQSET Level 2 NVQ Certificate in Process Engineering Maintenance (QCF) (162 GLH)
Edexcel BTEC Level 2 Extended Certificate in Engineering (QCF) (180 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 15 months to complete.

Intermediate Level Process Engineering Maintenance Pathway 2b: 752 Total GLH
PAA\VQSET Level 2 NVQ Certificate in Process Engineering Maintenance (QCF) (162 GLH)
Edexcel BTEC Level 2 Diploma in Engineering (QCF) (360 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 24 months to complete.

Intermediate Level Process Engineering Maintenance Pathway 2c: 630 Total GLH
PAA\VQSET Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF) (220 GLH)*
Edexcel BTEC Level 2 Extended Certificate in Engineering (QCF) (180GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 15 months to complete.

Intermediate Level Process Engineering Maintenance Pathway 2d: 810 Total GLH
PAA\VQSET Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF) (220 GLH)*
Edexcel BTEC Level 2 Diploma in Engineering (QCF) (360 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 24 months to complete.

** **Pathways 2c & 2d** - For the Maintenance Support Pathway within the PAA\VQSET Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF) learners are required to undertake an additional 38 GLH, making a total of 220 GLH .*

Total GLH for Advanced Level (Level 3) Pathways

Advanced Level Process Operator/Technician Pathway 1a: 975 Total GLH
PAA\VQSET Level 3 NVQ Diploma in Processing Industries Operations (QCF) (285 GLH)
City and Guilds Level 3 Diploma in Process Technology (QCF) (460 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 24 months to complete.

Advanced Level Process Operator/Technician Pathway 1b: 936 Total GLH
PAA\VQSET Level 3 Diploma in Operations and Technical Support in the Process Industries (QCF) (246 GLH)
City and Guilds Level 3 Diploma in Process Technology (QCF) (460 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 24 months to complete.

Advanced Level Process Operator/Technician Pathway 1c: 1235 Total GLH
PAA\VQSET Level 3 NVQ Diploma in Processing Industries Operations (QCF) (285 GLH)
Edexcel BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF) (720 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 36 months to complete.

Advanced Level Process Operator/Technician Pathway 1d: 1196 Total GLH
PAA\VQSET Level 3 Diploma in Operations and Technical Support in the Process Industries (QCF) (246 GLH)
Edexcel BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF) (720 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 36 months to complete.

Advanced Level Process Operator/Technician Pathway 1e: 1196 Total GLH
PAA\VQSET Level 3 Diploma in Operations and Technical Support in the Process Industries (QCF) (246 GLH)
Edexcel BTEC Level 3 Diploma in Applied Science (QCF) (720 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 36 months to complete.

Advanced Level Process Operator/Technician Pathway 1f: 1235 Total GLH
PAA\VQSET Level 3 NVQ Diploma in Processing Industries Operations (QCF) (285 GLH)
Edexcel BTEC Level 3 Diploma in Applied Science (QCF) (720 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 36 months to complete.

Advanced Level Process Engineering Maintenance Pathway 2a: 939 Total GLH
PAA\VQSET Level 3 NVQ Diploma in Process Engineering Maintenance (QCF) (349 GLH)
Edexcel BTEC Level 3 Diploma in Engineering (Specialist: Operations and Maintenance) (QCF) (360 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 24 months to complete.

Advanced Level Process Engineering Maintenance Pathway 2b: 1299 Total GLH
PAA\VQSET Level 3 NVQ Diploma in Process Engineering Maintenance (QCF) (349 GLH)
Edexcel BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF) (720 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 36 months to complete.

Advanced Level Process Engineering Maintenance Pathway 2c: 1299 Total GLH
PAA\VQSET Level 3 NVQ Diploma in Process Engineering Maintenance (QCF) (349 GLH)
Edexcel BTEC Level 3 Diploma in Electrical/Electronic Engineering (QCF) (720 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take 36 months to complete.

Advanced Level Downstream Operations Pathway 3a: 1096 Total GLH
PAA\VQSET Level 3 Diploma in Downstream Field Operations (QCF) (406 GLH)
City and Guilds Level 3 Diploma in Process Technology (QCF) (460 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company training (230 GLH).
This pathway will take36 months to complete.

Advanced Level Downstream Operations Pathway 3b: 1119 Total GLH
PAA\VQSET Level 3 Diploma in Downstream Control Room Operations (QCF) (429 GLH)
City and Guilds Level 3 Diploma in Process Technology (QCF) (460 GLH).
Other framework requirements covering Functional Skills, ERR, mentoring and company

training (230 GLH).
This pathway will take 36 months to complete.

Minimum credits for each pathway:

- Intermediate Level Process Operations Pathway 1a: 110 Credits
- Intermediate Level Process Operations Pathway 1b: 98 Credits
- Intermediate Level Process Engineering Maintenance Pathway 2a: 73 Credits
- Intermediate Level Process Engineering Maintenance Pathway 2b: 103 Credits
- Intermediate Level Process Engineering Maintenance Pathway 2c: 79 Credits
- Intermediate Level Process Engineering Maintenance Pathway 2d: 109 Credits

- Advanced Level Process Operator/Technician Pathway 1a: 117 Credits
- Advanced Level Process Operator/Technician Pathway 1b: 111 Credits
- Advanced Level Process Operator/Technician Pathway 1c: 183 Credits
- Advanced Level Process Operator/Technician Pathway 1d: 177 Credits
- Advanced Level Process Operator/Technician Pathway 1e: 177 Credits
- Advanced Level Process Operator/Technician Pathway 1f: 183 Credits
- Advanced Level Process Engineering Maintenance Pathway 2a: 140 Credits
- Advanced Level Process Engineering Maintenance Pathway 2b: 200 Credits
- Advanced Level Process Engineering Maintenance Pathway 2c: 200 Credits
- Advanced Level Downstream Operations Pathway 3a: 138 Credits
- Advanced Level Downstream Operations Pathway 3b: 141 Credits

Minimum off-the-job guided learning hours

Off-the-job GLH for Intermediate Level (Level 2) Pathways:
Below are the minimum 'off-the-job' guided learning hours (GLH) for the Process Operator pathway and Process Engineering Maintenance pathway, dependent on the qualifications selected. The components of the framework undertaken will be decided by the employer, provider and apprentice and be based on the employer's requirements and the prior achievements and prior experience of the apprentice.

For all of the pathways stated below, the additional framework requirements covering Functional Skills, ERR, mentoring and company training are met through 230 'off-the-job' Training Hours.

Intermediate Level Process Operations Pathways 1a & 1b: 630 'off-the-job' GLH
City and Guilds Level 2 Diploma in Process Technology (QCF) (400 'off-the-job' GLH).

Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 430 'off-the-job' GLH in the first year of the apprenticeship and a further 200 'off-the-job' GLH to be completed over months 13 to 24.
[See "on-the-job" pathway 1a & 1b]

Intermediate Level Process Engineering Maintenance Pathway 2a: 410 'off-the-job' GLH
Edexcel BTEC Level 2 Extended Certificate in Engineering (QCF) (180'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 410 'off-the-job' GLH in the first year of the apprenticeship.
[See "on-the-job" pathway 2a]

Intermediate Level Process Engineering Maintenance Pathway 2b: 590 'off-the-job' GLH
Edexcel BTEC Level 2 Diploma in Engineering (QCF) (360 'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 410 'off-the-job' GLH in the first year of the apprenticeship and a further 180 'off-the-job' GLH to be completed over months 13 to 24.[See "on-the-job" pathway 2b]

Intermediate Level Process Engineering Maintenance Pathway 2c: 410 'off-the-job' GLH
Edexcel BTEC Level 2 Extended Certificate in Engineering (QCF) (180'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 410 'off-the-job' GLH in the first year of the apprenticeship.
[See "on-the-job" pathway 2c]

Intermediate Level Process Engineering Maintenance Pathway 2d: 590 'off-the-job' GLH
Edexcel BTEC Level 2 Diploma in Engineering (QCF) (360 'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 410 'off-the-job' GLH in the first year of the apprenticeship and a further 180 'off-the-job' GLH to be completed over months 13 to 24.
[See "on-the-job" pathway 2d]

Off-the-job GLH for Advanced Level (Level 3) Pathways:
Below are the minimum 'off-the-job' guided learning hours (GLH) for the Process Operator/ Technician pathway, Process Engineering Maintenance pathway and the Downstream Operations pathway, dependent on the qualifications selected. The components of the framework undertaken will be decided by the employer, provider and apprentice and be based

on the employer's requirements and the prior achievements and prior experience of the apprentice.

Advanced Level Process Operator/Technician Pathways 1a & 1b: 690 'off-the-job' GLH
City and Guilds Level 3 Diploma in Process Technology (QCF) (460 'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 460 'off-the-job' GLH in the first year of the Advanced Level Apprenticeship and a further 230 'off-the-job' GLH to be completed over months 13 to 24.
[See "on-the-job" pathway 1a & 1b]

Advanced Level Process Operator/Technician Pathways 1c & 1d: 950 'off-the-job' GLH
Edexcel BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF) (720 'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 590 'off-the-job' GLH in the first year of the Advanced Level Apprenticeship with a further 180 'off-the-job' GLH to be completed over months 13 to 24 and 180 'off-the-job' GLH to be completed over months 25 to 36.
[See "on-the-job" pathways 1c& 1d]

Advanced Level Process Operator/Technician Pathways 1e & 1f: 950 'off-the-job' GLH
Edexcel BTEC Level 3 Diploma in Applied Science (QCF) (720 'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 590 'off-the-job' GLH in the first year of the Advanced Level Apprenticeship with a further 180 'off-the-job' GLH to be completed over months 13 to 24 and 180 'off-the-job' GLH to be completed over months 25 to 36.
[See "on-the-job" pathways 1e & 1f]

Advanced Level Process Engineering Maintenance Pathway 2a: 590 'off-the-job' GLH
Edexcel BTEC Level 3 Diploma in Engineering (Specialist: Operations and Maintenance) (QCF) (360 'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 410 'off-the-job' GLH in the first year of the Advanced Level Apprenticeship and a further 180 'off-the-job' GLH to be completed over months 13 to 24.
[See "on-the-job" pathway 2a]

Advanced Level Process Engineering Maintenance Pathway 2b: 950 'off-the-job' GLH

Edexcel BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF) (720 'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 590 'off-the-job' GLH in the first year of the Advanced Level Apprenticeship with a further 180 'off-the-job' GLH to be completed over months 13 to 24 and 180 'off-the-job' GLH to be completed over months 25 to 36.
[See "on-the-job" pathway 2b]

Advanced Level Process Engineering Maintenance Pathway 2c: 950 'off-the-job' GLH
Edexcel BTEC Level 3 Diploma in Electrical/Electronic Engineering (QCF) (720 'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 590 'off-the-job' GLH in the first year of the Advanced Level Apprenticeship with a further 180 'off-the-job' GLH to be completed over months 13 to 24 and 180 'off-the-job' GLH to be completed over months 25 to 36.
[See "on-the-job" pathway 2c]

Advanced Level Downstream Operations Pathways 3a & 3b: 690 'off-the-job' GLH
City and Guilds Level 3 Diploma in Process Technology (QCF) (460 'off-the-job' GLH).
Additional framework requirements (230 'off-the-job' GLH).
It is expected that the apprentice will complete 230 'off-the-job' GLH in the first year of the Advanced Level Apprenticeship with a further 230 'off-the-job' GLH to be completed over months 13 to 24 and 230'off-the-job' GLH to be completed over months 25 to 36.
[See "on-the-job" pathways 3a & 3b]

The 'off-the-job' guided learning hours provided for all of the pathways above exceed the minimum legal requirement of 30% or 100 'off-the-job' GLH per year.

How this requirement will be met

The guided learning hours for 'off-the-job' training can be met in a number of ways:

Intermediate Level Apprenticeship

Pathways - Process Operations: Process Engineering Maintenance

Evidence:
Copy of a Certificate for the knowledge qualification –
• Level 2 Diploma in Process Technology
• Level 2 Diploma in Engineering
• Level 2 Extended Certificate in Engineering
Copies of the required Certificates for Functional Skills or Key Skills
Copy of the completed assessors evidence document for Employee Rights & Responsibilities
Copy of the completed assessors evidence document for all six Personal Learning and Thinking Skills
Copy of a signed declaration from the training provider stating how the GLH for other types of 'off-the-job' training has been achieved.

Example: How the 'off-the-job' learning requirement will be met using Intermediate Level (Level 2) Process Operations Pathways 1a & 1b

• Level 2 Diploma in Process Technology (QCF) [400 GLH]
• Level 1 Functional Skills Maths (alternatively Key Skill Level 1 Application of Number) [45GLH]*
• Level 1 Functional Skills English (alternatively Key Skill Level 1 Communication) [45GLH]*
• Level 1 Functional Skills Information Communication Technology (ICT) (alternatively Key Skill Level 1 ICT) [45GLH]*
• Company Induction and Employee's Rights and Responsibilities (ERR) [40GLH]
• Mentoring for the duration of the framework [40GLH]
• Other appraisals, company training [15GLH]

• **Total [630 GLH]**

* - Please refer to section on Transferable Skills for a list of exemptions or proxy qualifications.

Advanced Level Apprenticeship

Pathways - Process Operator/ Technician: Process Engineering Maintenance: Downstream Operations

Evidence:
Copy of a Certificate for the knowledge qualification –
• Level 3 Diploma in Operations and Maintenance Engineering or
• Level 3 Diploma in Process Technology or
• Level 3 Diploma in Applied Science or
• Level 3 Diploma in Electrical/ Electronic Engineering
Copies of the required Certificates for Functional Skills or Key Skills
Copy of the completed assessors evidence document for Employee Rights & Responsibilities
Copy of the completed assessors evidence document for all six Personal Learning and Thinking Skills
Copy of a signed declaration from the training provider stating how the GLH for other types of 'off-the-job' training has been achieved.

Example: How the 'off-the-job' learning requirement will be met using Advanced Level (Level 3) Process Operator/ Technician Pathway 1a & 1b

• Level 3 Diploma in Process Technology (QCF) [460GLH]
• Level 2 Functional Skills Maths (alternatively Key Skill Level 2 Application of Number) [45GLH]*
• Level 2 Functional Skills English (alternatively Key Skill Level 2 Communication) [45GLH]*
• Level 2 Functional Skills Information Communication Technology (ICT) (alternatively Key Skill Level 2 ICT) [45GLH]*
• Company Induction and Employee's Rights and Responsibilities (ERR) [40GLH]
• Mentoring for the duration of the framework [40GLH]
• Other appraisals, company training [15GLH]

• **Total [690 GLH]**

* - Please refer to section on Transferable Skills for a list of exemptions or proxy qualifications.

Guided Learning Hours should:
1. Achieve clear and specific outcomes which directly contribute to the successful achievement of the framework - this may include accredited and non-accredited elements of the framework;
2. Be planned, reviewed and evaluated jointly between the apprentice and a tutor, teacher, mentor or manager. The Apprentice must be allowed access to a tutor, teacher, mentor or manager, as and when required;
3. Be completed while working under an Apprenticeship Agreement and delivered during contracted working hours;
4. Be delivered through one or more of the following methods: individual and group teaching,

distance learning, e-learning, coaching, mentoring, feedback and assessment, collaborative/ networked learning with peers and guided study;
5. Be recorded. (Example; in a log book or diary, completed attendance records or on an electronic/ online recording system, witness testimonies or video recordings.)

Minimum on-the-job guided learning hours

On-the-job GLH for Intermediate Level (Level 2) Pathways:
To understand the overall make up of the GLH within a pathway, the 'on-the-job' pathways below should be linked to their corresponding 'off-the-job' pathways described earlier in this document.

Intermediate Level Process Operations Pathway 1a: 256 GLH
PAA\VQSET Level 2 NVQ Diploma in Processing Industries Operations (QCF) (256 'on-the-job' GLH).
In year 1 a minimum of 128 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. The remaining 128 'on-the-job' GLH will be completed over months 13 to 24 completing on-the-job training and assessments

Intermediate Level Process Operations Pathway 1b: 182 GLH
PAA\VQSET Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF) (182 'on-the-job' GLH).
In year 1 a minimum of 82 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. The remaining 100 'on-the-job' GLH will be completed over months 13 to 24.

Intermediate Level Process Engineering Maintenance Pathway 2a: 162 GLH
PAA\VQSET Level 2 NVQ Certificate in Process Engineering Maintenance (QCF) (162 'on-the-job' GLH).
In year 1 a minimum of 90 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. The remaining 72 'on-the-job' GLH will be undertaken in months 13 to 15.

Intermediate Level Process Engineering Maintenance Pathway 2b: 162 GLH
PAA\VQSET Level 2 NVQ Certificate in Process Engineering Maintenance (QCF) (162 'on-the-job' GLH).
In year 1 a minimum of 62 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. The remaining 100 'on-the-job' GLH will be completed over months 13 to 24.

Intermediate Level Process Engineering Maintenance Pathway 2c: 220 GLH
PAA\VQSET Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF) (220 'on-the-job' GLH)*
In year 1 a minimum of 120 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. The remaining 100 'on-the-job' GLH will be undertaken in months 13 to 15.

Intermediate Level Process Engineering Maintenance Pathway 2d: 220 GLH
PAA\VQSET Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF) (220 'on-the-job' GLH)*
In year 1 a minimum of 100 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. The remaining 120 'on-the-job' GLH will be completed over months 13 to 24.

** Pathways 2c & 2d - For the Maintenance Support Pathway within the PAA\VQSET Level 2 Certificate in Operations and Technical Support in the Process Industries (QCF) learners are required to undertake an additional 38 GLH, making a total of 220 GLH .*

On-the-job GLH for Advanced Level (Level 3) Pathways:

Advanced Level Process Operator/Technician Pathway 1a: 285 GLH
PAA\VQSET Level 3 NVQ Diploma in Processing Industries Operations (QCF) (285 'on-the-job' GLH).
In year 1 a minimum of 100 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. The remaining 185 'on-the-job' GLH being completed over months 13 to 24.

Advanced Level Process Operator/Technician Pathway 1b: 246 GLH
PAA\VQSET Level 3 Diploma in Operations and Technical Support in the Process Industries (QCF) (246 'on-the-job' GLH).
In year 1 a minimum of 100 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. A further 146 'on-the-job' GLH to be completed over months 13 to 24.

Advanced Level Process Operator/Technician Pathway 1c & 1f: 285 GLH
PAA\VQSET Level 3 NVQ Diploma in Processing Industries Operations (QCF) (285 'on-the-job' GLH).
In year 1 a minimum of 85 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. A further 100 'on-the-job' GLH to be completed over months 13 to

24 and 100 'on-the-job' GLH to be completed over months 25 to 36.

Advanced Level Process Operator/Technician Pathway 1d & 1e: 246 GLH
PAA\VQSET Level 3 Diploma in Operations and Technical Support in the Process Industries (QCF) (246 'on-the-job' GLH).
In year 1 a minimum of 46 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. A further 100 'on-the-job' GLH to be completed over months 13 to 24 and 100 'on-the-job' GLH to be completed over months 25 to 36.

Advanced Level Process Engineering Maintenance Pathway 2a: 349 GLH
PAA\VQSET Level 3 NVQ Diploma in Process Engineering Maintenance (QCF) (349 'on-the-job' GLH).
In year 1 a minimum of 149 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. The remaining 200 'on-the-job' GLH being completed over months 13 to 24.

Advanced Level Process Engineering Maintenance Pathway 2b: 349 GLH
PAA\VQSET Level 3 NVQ Diploma in Process Engineering Maintenance (QCF) (349 'on-the-job' GLH).
In year 1 a minimum of 10 'on-the-job' 0 GLH will be spent on-the-job, gathering evidence for the vocational qualification. A further 100 'on-the-job' GLH to be completed over months 13 to 24 and 149 'on-the-job' GLH to be completed over months 25 to 36.

Advanced Level Process Engineering Maintenance Pathway 2c: 349 GLH
PAA\VQSET Level 3 NVQ Diploma in Process Engineering Maintenance (QCF) (349 'on-the-job' GLH).
In year 1 a minimum of 100 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. A further 100 'on-the-job' GLH to be completed over months 13 to 24 and 149 'on-the-job' GLH to be completed over months 25 to 36.

Advanced Level Downstream Operations Pathway 3a: 406 GLH
PAA\VQSET Level 3 Diploma in Downstream Field Operations (QCF) (406 'on-the-job' GLH).
In year 1 a minimum of 106 'on-the-job' GLH will be spent on-the-job, gathering evidence for the vocational qualification. A further 150 'on-the-job' GLH to be completed over months 13 to 24 and 150 'on-the-job' GLH to be completed over months 25 to 36.

Advanced Level Downstream Operations Pathway 3b: 429 GLH
PAA\VQSET Level 3 Diploma in Downstream Control Room Operations (QCF) (429 'on-the-job' GLH).
In year 1 a minimum of 129 'on-the-job' GLH will be spent on-the-job, gathering evidence for

the vocational qualification. A further 150 'on-the-job' GLH to be completed over months 13 to 24 and 150 'on-the-job' GLH to be completed over months 25 to 36.

How this requirement will be met

On-the-job training may include any activity where an apprentice receives some form of instruction, tuition, guidance, support or feedback whilst carrying out their day to day role.

On-the-job training will consist of an apprentice meeting and demonstrating the skills and competencies in the competency qualification relevant to their selected pathway and any time spent receiving on the job support, feedback and review of their job performance.

Intermediate Level Apprenticeship

Pathways – Process Operations: Process Engineering Maintenance

Evidence:
Copy of a Certificate for the competence qualification –
• Level 2 Certificate in Operations and Technical Support in the Process Industries *or*
• Level 2 NVQ Diploma in Process Engineering Maintenance *or*
• Level 2 NVQ Diploma in Process Industries Operations
Copy of any certificates for any training courses attended
Copy of any completed assessor/ monitoring reports
Copy of any signed declaration from the training provider stating how the GLH for other type of on-the-job training has been achieved.

Advanced Level Apprenticeship

Pathways – Process Operator/ Technician: Process Engineering Maintenance: Downstream Operations

Evidence:
Copy of a Certificate for the competence qualification –
• Level 3 Diploma in Operations and Technical Support in the Process Industries *or*

- Level 3 NVQ Diploma in Process Industries Operations *or*
- Level 3 NVQ Diploma in Process Engineering Maintenance *or*
- Level 3 Diploma in Downstream Control Room Operations *or*
- Level 3 Diploma in Downstream Field Operations

Copy of any certificates for any training courses attended
Copy of any completed assessor/ monitoring reports
Copy of any signed declaration from the training provider stating how the GLH for other type of on-the-job training has been achieved

Guided Learning Hours (GLH) should:

1. Achieve clear and specific outcomes which directly contribute to the successful achievement of the framework - this may include accredited and non-accredited elements of the framework;
2. Be planned, reviewed and evaluated jointly between the apprentice and a tutor, teacher, mentor or manager. The Apprentice must be allowed access to a tutor, teacher, mentor or manager, as and when required;
3. Be completed while working under an Apprenticeship Agreement and delivered during contracted working hours.
4. Be delivered through one or more of the following methods: individual and group teaching, distance learning, e-learning, coaching, mentoring, feedback and assessment, collaborative/ networked learning with peers and guided study.
5. Be recorded. (For example; in a log book or diary, completed attendance records or on an electronic/online recording system, witness testimonies or video recordings.)

Personal learning and thinking skills assessment and recognition (England)

Summary of Personal Learning and Thinking Skills

Personal Learning and Thinking Skills (PLTS) will be delivered through a combination of practical experience, experiential learning and/or through formal instruction dependent on how the individual PLTS relate to that particular unit.

The six individual PLTS have been mapped to the mandatory units of the vocational qualifications contained in this framework. The Cogent PLTS pack signposts where each learning outcome for the individual PLTS is embedded within the mandatory units.

As the apprentice completes the mandatory units they will need to highlight evidence of how the individual PLTS has been achieved. Evidence may be gathered in the form of a logbook, portfolio entries, observations, tasks and underpinning knowledge (UPK) tests. Within the PLTS pack there is a facility for the Apprentice to record/ signpost to relevant, supporting evidence that the skill has been used to get tasks done in the workplace.

The assessor will then need to check that this evidence is correct. A copy of the assessor's assessment documentation will then be submitted to the certificating authority as evidence that the PLTS has been achieved.

Alternatively, it is possible for Apprentices to undertake a specific QCF unit for PLTS which would be formally delivered, assessed and accredited. Some training providers may choose this option but this framework does not require the achievement of an accredited PLTS qualification unit.

It is important to note that the apprentice must acheive the standards of attainment for all 6 Personal Learning and Thinking Skills.

Further guidance can be obtained by downloading a PLTS pack from the Apprenticeships section of the Cogent website at www.cogent-ssc.com.

Creative thinking

Apprentices will need to show how they can think creatively by generating and exploring ideas, making original connections. They will try different ways to tackle a problem, working with others to find imaginative solutions and outcomes that are of value.

The creative thinking PLTS have been mapped to the mandatory units of the vocational qualifications contained in this framework. The Cogent PLTS pack signposts where each learning outcome for the individual PLTS is embedded within the mandatory units.

Independent enquiry

Apprentices will be expected to process and evaluate information within their work, planning what to do and how to go about it. They will take informed and well-reasoned decisions, recognising that others have different beliefs and attitudes.

The independent enquiry PLTS have been mapped to the mandatory units of the vocational qualifications contained in this framework. The Cogent PLTS pack signposts where each learning outcome for the individual PLTS is embedded within the mandatory units.

Reflective learning

Apprentices must evaluate their strengths and limitations, setting themselves realistic goals with criteria for success. They will monitor their own performance and progress, inviting feedback from others and making changes to further their learning.

The reflective learning PLTS have been mapped to the mandatory units of the vocational qualifications contained in this framework. The Cogent PLTS pack signposts where each learning outcome for the individual PLTS is embedded within the mandatory units.

Team working

Apprentices will be required to work confidently with others, adapting to different contexts and taking responsibility for their own part. They will listen to and take account of different views. They will form collaborative relationships, resolving issues to reach agreed outcomes.

The team working PLTS have been mapped to the mandatory units of the vocational qualifications contained in this framework. The Cogent PLTS pack signposts where each learning outcome for the individual PLTS is embedded within the mandatory units.

Self management

Apprentices must show how they can organise themselves, showing personal responsibility, initiative, creativity and enterprise with a commitment to learning and self-improvement. They will actively embrace change, responding positively to new priorities, coping with challenges and looking for opportunities.

The self management PLTS have been mapped to the mandatory units of the vocational qualifications contained in this framework. The Cogent PLTS pack signposts where each learning outcome for the individual PLTS is embedded within the mandatory units.

Effective participation

Apprentices must show how they have actively engaged with issues that affect them and those around them. They will play a full part in the life of their college or workplace by taking responsible action to bring about improvements for others as well as themselves.

The effective participation PLTS have been mapped to the mandatory units of the vocational qualifications contained in this framework. The Cogent PLTS pack signposts where each learning outcome for the individual PLTS is embedded within the mandatory units.

Additional employer requirements

None

apprenticeship
FRAMEWORKS ONLINE

For more information visit
www.apprenticeshipframeworksonline.semta.org.uk