**Welsh** **Apprenticeship Pathway**

**Apprenticeship in Process Manufacturing**

**Level 2 & Level 3**

The content of this Pathway has been agreed by *[insert Sector Skills Council] or [the Steering Group] (delete as required)*. This is the only Apprenticeship Pathway in the [*insert framework*] sector approved for use in Wales that is eligible for Welsh Government funding.

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**LEARNING PROGRAMME CONTENT**

The Learning Programme provision shall comprise of three mandatory elements:

* Qualifications,
* Essential Skills
* On/off the job training

The total minimum credit value required for the Level 2 Pathways:

Pathway 1: Process Operator is 113 credits

The total minimum credit value required for the Level 3 Pathways:

Pathway 1: Process Operator/Technician is 120 credits

Pathway 2: Process Engineering Maintenance is 173 credits

Pathway 3: Downstream Operations is credits is 141 credits

**ENTRY REQUIREMENTS**

Apprenticeship applicants will be expected to attend an interview with the employer/ training provider to assess their suitability for entry into 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.

**Level 2 Apprenticeship**

The Process Manufacturing Apprenticeship 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 Process 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 the Welsh Baccalaureate (Foundation/ Intermediate Diploma) Principal

Learning in Engineering or Manufacturing & Product Design *or*

• achievement of Awards, Certificates or Diplomas in a related industry such as Science or

Engineering *or*

• proof of completion of non-accredited courses.

**Level 3 Apprenticeship**

The Process Manufacturing Apprenticeship 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 level 2 Process Manufacturing Apprenticeship or a level 2

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 the Welsh Baccalaureate (Intermediate/ Advanced Diploma) Principal

Learning in Engineering or Manufacturing & Product Design or

• achievement of Awards, Certificates or Diplomas in a related industry such as Science or

Engineering or

• proof of completion of non-accredited courses.

**Initial Assessment:**

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

**Accreditation of Prior Learning:**

Applicants already working in the sector will be able to have their prior experience

recognised by the awarding organisation and this will count towards the competence,

knowledge and Essential Skills Wales qualifications in this framework.

**Knowledge qualifications:**

If applicants already have one of the Level 2 or Level 3 knowledge qualifications before they started their Apprenticeship (see knowledge qualifications page in this framework), they can count this and do not have to redo the qualification, providing that they have achieved this qualification within 5 years of applying for the apprenticeship certificate. For example, they may have already achieved the knowledge element as part of the Welsh Baccalaureate.

The hours they spent gaining this qualification will also count towards the minimum hours required for this framework.

**Competence qualifications:**

If applicants already have the Level 2 or Level 3 competence qualification for the

Apprenticeship they do not have to repeat this qualification. However, this qualification must have been achieved within 5 years of applying for the apprenticeship certificate and they will still have to demonstrate competence in the workplace.

All level 2 Apprenticeship/level 3 Apprenticeship applicants should be aware of the varied working conditions within the process manufacturing industries, which may include;

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

**APPRENTICESHIP PATHWAY LEARNING PROGRAMME(S)**

**Level 2: Process Operations**

**Qualifications**

Participants must achieve one of the following *competence and knowledge* qualifications below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Level 2 - NVQ Diploma in Processing Industries Operations | | | | | |
| Awarding Body | Qualification No. | Credit Value | Total Qualification Time | Competence / Knowledge / Combined | Qualification  Assessment  Language(s) |
| GQA PAA\VQ-SET | 500/7759/4 | 41 | 410 | Competence | English Only |
| Level 2 Diploma in Process Technology | | | | | |
| City & Guilds | 600/0820/9 | 54 | 540 | Knowledge | English Only |

**Essential Skills Wales (ESW)**

Essential Skills Wales qualifications assessment languages are English-Welsh (*see example below)*

|  |  |  |
| --- | --- | --- |
| Level 2: Process Operations | Level | Minimum Credit Value |
| Communication | 1 | 6 |
| Application of Number | 1 | 6 |
| Digital Literacy | 1 | 6 |

**On/Off the Job Training**

|  |  |  |
| --- | --- | --- |
| Pathway | Minimum On the Job Training Hours | Minimum Off the Job Training Hours |
| Level 2: Process Operations | 410 | 720 |

On/Off the Job Qualification details (Minimum Credit & Hours)

|  |
| --- |
| Pathway 1: Process Operations  Competence qualification - 41 credits & Knowledge qualification -54 credits  The total amount of training hours - which includes both on and off-the-job learning for this Pathway is 1130 training hours.  (Please note this included 180 Hours off-the-job for the Essential Skills Units) |

On/Off the Job Essential Skills details (Minimum Credit & Hours) *(if required*)

|  |
| --- |
| *Please insert on/off job details* (*see example below*)   * 6 credits / 45 GLH Level 1 Essential Skills Wales Communication * 6 credits / 45 GLH Level 1 Essential Skills Wales Application of Number * 6 credits / 45 GLH Level 1 Essential Skills Wales Digital Literacy |

**Level 3**:**Process Operator/Technician**

**Qualifications**

Participants must achieve one of the following *competence and knowledge* qualifications below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Level 3 - Level 3 NVQ Diploma in Processing Industries Operations | | | | | |
| Awarding Body | Qualification No. | Credit Value | Total Qualification Time | Competence / Knowledge / Combined | Qualification  Assessment  Language(s) |
| GQA PAA\VQ-Set | 500/7802/1 | 48 | 480 | Competence | English Only |
| Level 3 Diploma in Process Technology | | | | | |
| City & Guilds | 600/1066/6 | 54 | 540 | Knowledge | English Only |
| Pearson BTEC Level 3 Award in Advanced Manufacturing Engineering (Development Technical Knowledge) | | | | | |
| Pearson | 601/9053/X | X | 492 | Knowledge | English Only |
| Pearson BTEC Level 3 Certificate in Advanced Manufacturing Engineering (Development Technical Knowledge) | | | | | |
| Pearson | 601/9049/8 | X | 736 | Knowledge | English Only |
| Pearson BTEC Level 3 Diploma in Advanced Manufacturing Engineering (Development Technical Knowledge) | | | | | |
| Pearson | 601/9054/1 | X | 982 | Knowledge | English Only |

**Level 3: Process Engineering Maintenance**

**Qualifications**

Participants must achieve one of the following competence and knowledge qualifications below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Level 3 - NVQ Diploma in Process Engineering Maintenance (QCF) | | | | | |
| Awarding Body | Qualification No. | Credit Value | Total Qualification Time | Competence / Knowledge / Combined | Qualification  Assessment  Language(s) |
| GQA PAA\VQ-SET | 501/0211/4 | 65 | 650 | Competence | English Only |
| Pearson BTEC Level 3 Foundation Diploma in Engineering | | | | | |
| Pearson | 601/7591/6 | 90 | 740 | Knowledge | English Only |
| Pearson BTEC Level 3 Diploma in Engineering | | | | | |
| Pearson | 601/7580/1 | 120 | 975 | Knowledge | English Only |
| Pearson BTEC Level 3 Diploma in Electrical/Electronic Engineering | | | | | |
| Pearson | 601/7579/5 | 120 | 980 | Knowledge | English Only |
| Pearson BTEC Level 3 Diploma in Mechanical Engineering | | | | | |
| Pearson | 601/7583/7 | 120 | 985 | Knowledge | English Only |

**Level 3: Downstream Operations**

**Qualifications**

Participants must achieve one of the following competence and qualifications below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Level 3 Diploma in Downstream Control Room Operations | | | | | |
| Awarding Body | Qualification No. | Credit Value | Total Qualification Time | Competence / Knowledge / Combined | Qualification  Assessment  Language(s) |
| GQA PAA\VQ-SET | 500/6695/X | 72 | 720 | Competence | English Only |
| Level 3 Diploma in Downstream Field Operations | | | | | |
| GQA PAA\VQ-SET | 500/6693/6 | 69 | 690 | Competence | English Only |
| Level 3 Diploma in Process Technology | | | | | |
| City & Guilds | 600/1066/6 | 54 | 540 | Knowledge | English Only |
| Pearson BTEC Level 3 Diploma in Engineering | | | | | |
| Pearson | 601/7580/1 | 120 | 975 | Knowledge | English Only |

**Essential Skills Wales (ESW)**

Essential Skills Wales qualifications assessment languages are English-Welsh (*see example below)*

|  |  |  |
| --- | --- | --- |
| Level 3: Process Operator/Technician | Level | Minimum Credit Value |
| Communication | 2 | 6 |
| Application of Number | 2 | 6 |
| Digital Literacy | 2 | 6 |

**On/Off the Job Training**

|  |  |  |
| --- | --- | --- |
| Pathway Process Operator/Technician | Minimum On the Job Training Hours | Minimum Off the Job Training Hours |
| Level 3: | 480 | 627 |

On/Off the Job Qualification details (Minimum Credit & Hours)

|  |
| --- |
| *Pathway1: Process Operator/Technician*  *Competence qualification – 48 credits & Knowledge qualification – 54 credits*  *The total amount of training hours - which includes both on and off-the-job learning for this Pathway is 1216 training hours.*  *(Please note this included 135 Hours off-the-job for the Essential Skills Units)* |

On/Off the Job Essential Skills details (Minimum Credit & Hours)

|  |
| --- |
| *Please insert on/off job details* (*see example below*)   * 6 credits / 60 GLH Level 2 Essential Skills Wales Communication * 6 credits / 60 GLH Level 2 Essential Skills Wales Application of Number * 6 credits / 60 GLH Level 2 Essential Skills Wales Digital Literacy |

**On/Off the Job Training**

|  |  |  |
| --- | --- | --- |
| Pathway Process Engineering Maintenance | Minimum On the Job Training Hours | Minimum Off the Job Training Hours |
| Level 3: | 650 | 875 |

On/Off the Job Qualification details (Minimum Credit & Hours)

|  |
| --- |
| *Pathway 2: Process Engineering Maintenance*  *Competence qualification – 65 credits & Knowledge qualification – 90 credits*  *The total amount of training hours - which includes both on and off-the-job learning for this Pathway is 1525 training hours.*  *(Please note this included 135 Hours off-the-job for the Essential Skills Units* |

On/Off the Job Essential Skills details (Minimum Credit & Hours)

|  |
| --- |
| *Please insert on/off job details* (*see example below*)   * 6 credits / 60 GLH Level 2 Essential Skills Wales Communication * 6 credits / 60 GLH Level 2 Essential Skills Wales Application of Number * 6 credits / 60 GLH Level 2 Essential Skills Wales Digital Literacy |

**On/Off the Job Training**

|  |  |  |
| --- | --- | --- |
| Pathway 3 Downstream Operations | Minimum On the Job Training Hours | Minimum Off the Job Training Hours |
| Level 3: | 690 | 675 |

On/Off the Job Qualification details (Minimum Credit & Hours)

|  |
| --- |
| *Pathway 3: Downstream Operations*  *Competence qualification – 69 credits & Knowledge qualification – 54 credits*  *The total amount of training hours - which includes both on and off-the-job learning for this Pathway is 1305 training hours.*  *(Please note this included 135 Hours off-the-job for the Essential Skills Units)* |

On/Off the Job Essential Skills details (Minimum Credit & Hours)

|  |
| --- |
| *Please insert on/off job details* (*see example below*)   * 6 credits / 60 GLH Level 2 Essential Skills Wales Communication * 6 credits / 60 GLH Level 2 Essential Skills Wales Application of Number * 6 credits / 60 GLH Level 2 Essential Skills Wales Digital Literacy |

***PLEASE ADD ADDITIONAL PATHWAY LEVELS AS REQUIRED INCLUDING ANNEXES & make the links with the hyperlink***

**OTHER ADDITIONAL REQUIREMENTS**

|  |
| --- |
| *NONE* |

**JOB ROLES**

The latest version of the job roles and job descriptions for this Pathway can be found here

<https://cogentskills.com/membership/sip/sip-careers-outreach>

Level 2

Pathway1: Process Operator

Level 3

Pathway 1: Process Operator/Technician

Pathway 2: Process Engineering Maintenance

Pathway 3: Downstream Operations

**PROGRESSION**

**Level 2**

**Pathway1: Process Operator**

**Progression routes into:**

There are no pre-defined routes of entry into the Process Manufacturing Apprenticeship, 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.

• Welsh Baccalaureate (Foundation/ Intermediate Diploma) Principal Learning in Engineering or Manufacturing & Product Design also provide an excellent opportunity for progression in to Process Manufacturing.

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

**Progression from: the Level 3 Apprenticeship in Process Manufacturing (All Pathways)**

Following completion of this 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:

• Apprenticeship in Process Manufacturing or a related discipline

• Welsh Baccalaureate (Intermediate/ Advanced Diploma) Principal Learning in Engineering or Manufacturing & Product Design

• Develop their 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.

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

Chemicals

• Process Operator

• Pharmaceutical

• Process Operator

• Downstream

• Refinery Process Operator

**PROGRESSION**

**Progression routes into:**

Level 3

Pathway1: Process Operator

Pathway 2: Process Engineering Maintenance

Pathway 3: Downstream Operations

**Progression into these pathways:**

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

• Completion of a Foundation Apprenticeship in Process Manufacturing or 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.

• Welsh Baccalaureate (Intermediate / Advanced Diploma) Principal Learning in Engineering or Manufacturing & Product Design also provide an excellent opportunity for progression in to Process Manufacturing.

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

Progression from these pathways:

Following completion of this 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 Engineering or a related discipline

• Higher National Certificate/ Diploma in Chemical Engineering or a related discipline

• Welsh Baccalaureate (Advanced Diploma) Principal Learning in Engineering or Manufacturing & Product Design

• Develop their 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](http://www.engineeringuk.com)).

Successful completion of the 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)

EQUALITY & DIVERSITY

It is important that apprenticeship Pathways are inclusive and can demonstrate an active approach to identifying and removing barriers to entry and progression. Pathways should advance equality of opportunity between persons who share protected characteristics and those persons who do not as identified in the Equality Act 2010.

The protected characteristics identified in the Equality Act are age, disability, gender re-assignment, race, religion or belief, sex, sexual orientation, pregnancy and maternity. Marriage and civil partnership is also included although only in respect of the requirement to eliminate discrimination in employment.

Training providers and employers MUST also comply with the other duty under the Equality Act 2010 to ensure that applicants are not discriminated against in terms of entry to the industry based upon those nine protected characteristics.

|  |
| --- |
| *Apprenticeship frameworks should promote equality of access for those with a protected characteristic. Specifically, a framework should include a statement setting out:*   * *Whether and where there is under-representation within the occupational area;* * *The barriers to entry and progression for individuals within these groups; and* * *What action has been taken to remove these barriers or to justify them objectively for the skill, trade or occupation.*   *The Process Manufacturing Apprenticeship aims to promote diversity, opportunity and inclusion in Wales by offering high-quality, learning opportunities.*  *The delivery of the Foundation Apprenticeship/ 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 in Wales*  *Gender: there is an under-representation of women within the sector, 24%.*  *Ethnicity: representation of ethnic minority groups is approximately 3% of the workforce.*  *Age: in the process manufacturing industries, there is an ageing workforce with only 9% under 25 years.*  *Barriers*  *Geographical location of the refining 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 into 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 contribute to careers fairs and skills events in Wales 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.* |

**[EMPLOYMENT RESPONSIBILITIES AND RIGHTS (ERR)](#ERR)**

Employment Responsibilities and Rights (ERR) is no longer compulsory. But it is recommended that all apprentices (especially the 16 years -18 year group) receive a company induction programme.

**RESPONSIBILITIES**

It is the responsibility of the Training Provider and Employer to ensure that the requirements of

this pathway are delivered in accordance with the Welsh Government Apprenticeships

Guidance.

**Further information may be obtained from:**

Welsh Government

[**DfES-ApprenticeshipUnit@gov.wales**](mailto:DfES-ApprenticeshipUnit@gov.wales)