

# apprenticeship FRAMEWORK

## IT Infrastructure (Wales)

### IMPORTANT NOTIFICATION FOR ALL APPRENTICESHIP STARTS FROM 14 OCTOBER 2016

Modifications to SASW came into effect on 14 October 2016. These changes relate to the **Essential Skills and Employer Rights and Responsibilities** requirements of a framework and they **ONLY** apply to new Apprenticeship starts on, or after, 14th October. Apprenticeship starts before this date must continue to meet the 2013 SASW requirements for Essential Skills and Employer Rights and Responsibilities.

For more details of the changes and how they will affect new apprenticeship starts, please read the following preface page to the framework document. NB: Please check the "Revising a Framework" section for information on any additional changes that may have been made to this framework.

### Latest framework version?

For any previous versions of this framework: [www.acwcerts.co.uk/framework\\_library](http://www.acwcerts.co.uk/framework_library)

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# IT Infrastructure (Wales)

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# Framework information

## Information on the Issuing Authority for this framework:

Instructus

The Apprenticeship sector for occupations in air conditioning, building services engineering, business and administration, cleaning, customer service, digital/information technology, electro technical, electrical and electronic servicing, enterprise and business support, facilities management, heating and ventilating, housing, human resources and recruitment, industrial relations, leadership and management, marketing and sales (also includes contact centres and third sector), plumbing, property and refrigeration.

Issue number: 1	<b>This framework includes:</b>
Framework ID: FR04271	Level 2 <input type="checkbox"/> Level 3 <input checked="" type="checkbox"/> Level 4-7 <input checked="" type="checkbox"/>
Date this framework is to be reviewed by: 31/03/2021	<b>This framework is for use in: Wales</b>

## Short description

This Apprenticeship framework provides the skills, knowledge and competence required to become an IT Infrastructure Professional in a wide range of job roles such as:

- System operation and management
- Hardware installation and support
- Network installation and maintenance

The Apprenticeship programme combines skills and knowledge with employment in an IT Infrastructure role, meaning that apprentices are paid throughout the programme. Apprentices can apply and improve their skills in the workplace to complement the instructor-led learning.

# Contact information

## Proposer of this framework

[Instructus as part of a joint initiative with the Welsh and Scottish Governments.]

## Developer of this framework

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## Contact Details

Who is making this revision

Your organisation

Your email address:

# Revising a framework

## Why this framework is being revised

## Summary of changes made to this framework

## Qualifications removed

## Qualifications added

## Qualifications that have been extended

# Purpose of this framework

## Summary of the purpose of the framework

ICT is a key sector for Wales as the increasing capability and use of IT Infrastructure drives productivity and competitiveness across the whole economy. The ICT sector in Wales spans electronics, software development and new technologies with a mix of large multinationals and indigenous businesses.

Wales has approximately 25,000 people directly involved in the ICT industry. There are nearly 3,000 operations in Wales – among them Fujitsu Services, BT, Mitel, Logica, Cassidian, General Dynamics UK, SAIC, Sony UK, Logica and IBM, contributing around £1 billion to the Welsh economy annually. Welsh higher and further education institutions produce more than 3,500 graduates every year in ICT-related disciplines.

This framework will contribute towards meeting the following skills priorities for Wales:

- Skills for Jobs: The National Strategic Skills Audit for Wales; June 2011
- The Minister's response to the WESB report on Skills for Jobs Priorities
- Growth and Sustainable Jobs
- Digital Wales

## Aims and objectives of this framework (Wales)

Research has indicated a continuing need for new entrants into IT professional occupations. IT Infrastructure underpins the continuing increase in the use of IT systems across all aspects of business and government activities as well as for personal purposes.

Apprenticeship programmes provide a vital route to bring new entrants into this growing area. The sector required new entrants both from full-time education, but also from roles in other sectors and other sources (such as returners to work and unemployed), which could also be well suited to apprenticeship training.

### How is an apprenticeship delivered?

An Apprenticeship programme is fundamentally designed to be a work-based programme, whereby instructor-led learning can be immediately applied by apprentices in a real work context.

The qualifications contained in the framework reflect the overall design of an apprenticeship. Some units from the combined qualification must be assessed in the workplace, and wherever possible, it is recommended that all other units should also be assessed in this context.

Knowledge will generally be taught in an off-the-job setting, and assessed using assignments or tests, in order to ensure the apprentice has gained the underpinning theory and principles

required for the role.

The framework will also contribute to meeting the skills priorities in Wales by:

- Developing essential skills to improve general literacy, numeracy and ICT competence in Wales
- Helping employers to grow their online presence and increase business reach, competitiveness and prosperity

Providing a clear pathway into digital jobs to support growth of the Welsh economy Building the apprentice's employability and ability to contribute to employers' success



# Entry conditions for this framework

There are no specific entry criteria for this framework.

However, in general, learners should possess qualifications (or equivalent experience) at the levels at or immediately below the level of the award. For example, candidates may have a qualification at CQFW level 2, 3 or 4. In particular qualifications at these levels in STEM subjects would be an advantage.

Alternatively, candidate may have successfully completed an Apprenticeship at CQFW Levels 2 or 3. There is no absolute requirement that learners possess Computing or IT qualifications prior to undertaking this framework, however given the cognitive demands of the underpinning qualification, it is unlikely that candidates will successfully complete without some knowledge and experience of computers and/or demonstrable intellectual skills at an appropriate level.

# Level 3

Title for this framework at level 3

## IT Infrastructure

Pathways for the framework at level 3:

Pathway 1: All roles

# Level 3, Pathway 1: All roles

## Description of this pathway

This pathway covers all roles in IT Infrastructure.

A minimum of 114 credits is required.

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

There are no additional requirements other than the general entry conditions.

<b>Job title(s)</b>	<b>Job role(s)</b>
Hardware Technician	Installing and maintaining IT hardware
Helpdesk operator	Working with customers (primarily over the phone and via e-mail) to identify, troubleshoot and escalate IT faults
System/Network Operator	Monitoring systems or networks and controlling user access to IT resources

# Qualifications

## Competence qualifications available to this pathway

N/A

## Knowledge qualifications available to this pathway

N/A

## Combined qualifications available to this pathway

### B1 – Level 3 Diploma in IT Infrastructure

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
B1a	C00/1232/0	Agored Cymru	96	300	N/A

## Relationship between competence and knowledge qualifications

The qualification structure of the combined qualification requires the achievement of a minimum number of credits from units assessed in the workplace (competence element), exceeding the minimum required by the SASW.

# Essential Skills

An apprenticeship framework must specify as a Welsh certificate requirement the expected achievement levels of Essential Skills in Communication and the Application of Number.

Where Essential Skills qualifications are specified in an apprenticeship framework, the apprenticeship framework must specify the acceptance of a recognised proxy qualification for Communication and Application of Number.

## Communication

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of [SASW](#) on the [gov.wales](#) website. Additional guidance materials can be found on the [Knowledge Base](#) section of the [ACW](#) website.

**Does this framework require Communication achievement above the minimum SASW requirement?**    **YES**        **NO**   

If YES, please state the grade/level required for English and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

## Application of Number

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of [SASW](#) on the [gov.wales](#) website. Additional guidance materials can be found on the [Knowledge Base](#) section of the [ACW](#) website.

**Does this framework require Application of Number achievement above the minimum SASW requirement?**    **YES**        **NO**

If YES, please state the grade/level required for Maths and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

### Inclusion of Digital Literacy (ICT)

Digital Literacy (ICT) is an **optional** framework requirement.

Is Digital Literacy a requirement in this framework? **YES**  **NO**

### Digital Literacy (ICT)

**Please note that there are currently no acceptable proxy qualifications for Digital Literacy (ICT).**

For the current **minimum** grade/level requirements, please refer to the most recent version of [SASW](#) on the [gov.wales](#) website. Additional guidance materials can be found on the [Knowledge Base](#) section of the [ACW](#) website.

**Does this framework require Digital Literacy (ICT) achievement above the minimum SASW requirement?** **YES**  **NO**

If YES, please state the grade/level required for **Digital Literacy (ICT)** and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

# Progression routes into and from this pathway

Entry into this apprenticeship programme may be:

- directly from school or college with the relevant level of academic qualifications
- directly from university with an IT or other degree
- as a career transition from a general IT role or business role.

The Level 3 Apprenticeship programme offers successful apprentices the opportunity to further progress in their studies and go on to undertake a related degree programme. They could select from Bachelors degrees, Foundation degrees, Higher Nationals or another higher level qualification. Apprentices may also elect to continue within their job role and pursue their learning by undertaking additional technical, business or managerial level training and qualifications.

Apprentices who have completed a Level 3 apprenticeship programme have often progressed within their career to take on team leader or senior level positions, utilising their expanding technical expertise – and guiding and training others within the organisation.

**UCAS points for this pathway:**

N/A



# Employee rights and responsibilities

Please note that for Apprenticeship starts from 14/10/2016 onwards ERR is no longer a **mandatory** requirement in all frameworks.

However, it may still be included in some frameworks and where it is not explicitly stated that ERR is not a requirement then confirmation of an Apprentice’s ERR achievement will still remain a requirement for Apprenticeship certification purposes.

Is ERR a requirement for this framework? **YES**  **NO**

### Delivery and assessment

| N/A |

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# Level 4

Title for this framework at level 4

## IT Infrastructure

Pathways for the framework at level 4:

Pathway 1: All roles

# Level 4, Pathway 1: All roles

## Description of this pathway

This pathway covers all roles in IT Infrastructure.

A minimum of 168 credits is required.

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

There are no additional requirements other than the general entry conditions

<b>Job title(s)</b>	<b>Job role(s)</b>
IT Service Manager	Managing the IT service function, planning workloads and maintaining quality
IT Network/System Manager	Managing network or system operation and development and supervising technical staff

# Qualifications

## Competence qualifications available to this pathway

N/A

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## Knowledge qualifications available to this pathway

N/A

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## Combined qualifications available to this pathway

### B1 – Level 4 Diploma in IT Infrastructure

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
B1a	C00/1232/1	Agored Cymru	150	1000	N/A

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## Relationship between competence and knowledge qualifications

The qualification structure of the combined qualification requires the achievement of a minimum number of credits from units assessed in the workplace (competence element). This exceeds the minimum required by the SASW.

# Essential Skills

An apprenticeship framework must specify as a Welsh certificate requirement the expected achievement levels of Essential Skills in Communication and the Application of Number.

Where Essential Skills qualifications are specified in an apprenticeship framework, the apprenticeship framework must specify the acceptance of a recognised proxy qualification for Communication and Application of Number.

## Communication

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of [SASW](#) on the [gov.wales](#) website. Additional guidance materials can be found on the [Knowledge Base](#) section of the [ACW](#) website.

**Does this framework require Communication achievement above the minimum SASW requirement?** YES  NO

If YES, please state the grade/level required for English and give a brief **REASON** as to why this is required:

Communication Essential Skills is required at Level 3

## Application of Number

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of [SASW](#) on the [gov.wales](#) website. Additional guidance materials can be found on the [Knowledge Base](#) section of the [ACW](#) website.

**Does this framework require Application of Number achievement above the minimum SASW requirement?** YES  NO

If YES, please state the grade/level required for Maths and give a brief **REASON** as to why this is required:

Application of Number Essential Skills is required at level 3

### Inclusion of Digital Literacy (ICT)

Digital Literacy (ICT) is an **optional** framework requirement.

Is Digital Literacy a requirement in this framework? **YES**  **NO**

### Digital Literacy (ICT)

**Please note that there are currently no acceptable proxy qualifications for Digital Literacy (ICT).**

For the current **minimum** grade/level requirements, please refer to the most recent version of [SASW](#) on the [gov.wales](#) website. Additional guidance materials can be found on the [Knowledge Base](#) section of the [ACW](#) website.

**Does this framework require Digital Literacy (ICT) achievement above the minimum SASW requirement?** **YES**  **NO**

If YES, please state the grade/level required for **Digital Literacy (ICT)** and give a brief **REASON** as to why this is required:

Digital Literacy Essential Skills is required at Level 3

# Progression routes into and from this pathway

Candidates wishing to enter a Higher Apprenticeship will need to have achieved or demonstrated one of the following:

- A Levels, or equivalent educational attainment, including the Level 3 IT Diploma, Welsh or International Baccalaureate or other relevant Level 3 or 4 qualifications
- An Apprenticeship (Level 3)
- Employment within the technology/telecommunications industry for a number of years and demonstrated to their employer that they have a reasonable expectation of achieving the required outcomes of the Higher Apprenticeship. This can be supported by the demonstration or evidence of prior achievement or performance in the role prior to starting the Higher Apprenticeship.

Potential apprentices should bear in mind that a Higher Apprenticeship combines the challenges of higher-level education with full-time employment, and should be prepared for the greater volume and level of study than in Level 3 qualifications and apprenticeships.

Following the completion of the Level 4 Higher Apprenticeship framework, successful apprentices will be able to follow up on their knowledge studies and continue on to complete full Honours degree programmes.

Or other industry recognised, role-specific qualifications:

Project Management training and accreditation (PRINCE2, MSP, PMI, APM and Agile)  
Service Management training and accreditation (ITIL, SDI and ISO/IEC 2000 training)  
Management and Personal Development Training

A wide range of vendor and core technology training – leading to industry recognised qualifications are also available.

Some qualifications entitle membership of a professional organisation, offering networking and career advancement opportunities. For example, becoming a member of a professional organisation:

- The British Computer Society (BCS)
- The Institute of Engineering and Technology (IET)



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**UCAS points for this pathway:**

N/A

# Employee rights and responsibilities

Please note that for Apprenticeship starts from 14/10/2016 onwards ERR is no longer a **mandatory** requirement in all frameworks.

However, it may still be included in some frameworks and where it is not explicitly stated that ERR is not a requirement then confirmation of an Apprentice's ERR achievement will still remain a requirement for Apprenticeship certification purposes.

Is ERR a requirement for this framework? **YES**  **NO**

## Delivery and assessment

N/A

# How equality and diversity will be met

Instructus Digital Application Support Framework offers no barriers to entry and is intended to accommodate all learners regardless of gender, age, disability or ethnic origin.

## GENDER EQUALITY

Gender imbalance remains a significant issue for the IT & Telecoms sector. Female representation has fallen from 22% in 2001 to 16% in 2016 (51% across Wales as a whole). The gender imbalance is worsening across IT-related courses and industry. Instructus has initiated a number of programmes to encourage girls to consider a career in IT.

## AGE OF WORKFORCE

The average age of IT & Telecoms professionals in the UK is 39 years old (41 for workers more generally). 47% are aged 40 or above and only 19% are aged 16-29 (down from 33% in 2001). Strong apprenticeship programmes in this sector will help establish the pipeline of skilled professionals moving into higher level job roles in 5-10 years time.

## ETHNICITY AND DISABILITY

The Information and Communication Technologies industry is one of the most ethnically diverse industries in the UK, with 13% of the workforce (an increase from 8% of the workforce in 2002) coming from Black, Asian and Minority Ethnic backgrounds compared to 9% across the whole economy.

There is significant provision for individuals with disabilities throughout the IT & Telecoms sector with many, varied opportunities for rewarding careers at all levels. A wide range of IT apprenticeships are available for those with differing levels of disability. [

# On and off the job training

## Summary of on- and off-the-job training

Training hours are delivered during contracted working hours under an Apprenticeship agreement, or must have been completed no more than three years prior to commencing the apprenticeship.

For the Level 3 Apprenticeship pathway: 600 hours

For the Level 4 Apprenticeship pathway: 1500 hours

### On and off the job training hours:

- must be planned, reviewed and evaluated jointly between the apprentice and tutor, teacher, mentor or manager
- must allow training support via a tutor, teacher, mentor or manager
- may be delivered through one or more of the following methods: individual and group teaching, e-learning, distance learning, coaching, mentoring; feedback and assessment; collaborative/networked learning with peers; project work; guided study

Recognition of prior learning (RPL) is encouraged e.g. relevant content from the Welsh Baccalaureate.

## Off-the-job training

Off-the-job training includes those learning activities undertaken away from normal work duties.

### LEVEL 3

The minimum required is 480 hours. This is made up of:

Qualification units: 300 hours

Essential Skills Wales (for apprentices without the required levels): 180 hours

### LEVEL 4

The minimum required is 1180 hours. This is made up of:

Qualification units: 1000 hours

Essential Skills Wales (for apprentices without the required levels): 180 hours

### How this requirement will be met

Off-the-job learning will be required for the Apprentice to achieve the designated knowledge outcomes of the combined Diploma qualification. This may involve a combination of day release, block release, web based learning, mentoring and coaching.

Off-the-job training must be formally recorded. This evidence needs to be checked and signed by

both assessor and employer.

Previous work-related experience, recorded through the appropriate Awarding Organisation's QCF/RQF 'Recognition of Prior Learning' procedures, can count towards the off-the-job hours required to complete the Apprenticeship. Uncertificated off-the-job learning must have been acquired within 3 years of application, or the Apprentice must have been continuously employed in the relevant job role in the industry for 12 months duration.

## On-the-job training

LEVEL 3 An apprentice must receive a minimum of 120 hours on the job training

LEVEL 4 An apprentice must receive a minimum of 320 hours on the job training

Previous work-related experience, recorded through the appropriate Awarding Organisation's QCF/RQF 'Recognition of Prior Learning' procedures, can count towards the on the job hours required to complete the Apprenticeship. Training providers are encouraged to identify additional on the job training programmes that customise the learning to the new workplace. Uncertificated on the job learning must have been acquired within 3 years of application, or the Apprentice must have been continuously employed in the relevant job role in the industry for 12 months duration.

## How this requirement will be met

An Apprenticeship programme is fundamentally designed to be a work-based programme, whereby instructor-led learning can be immediately applied by apprentices in a real work context.

The qualifications contained in the framework reflects the overall design of an apprenticeship, containing some learning outcomes which are designed to be delivered off-the-job and some practical outcomes designed to be delivered on-the-job. Wherever possible, the competences should be assessed holistically in the workplace, ensuring that any knowledge elements in the units are learned in the work and organisational context.

This can be recorded by any suitable means including, for example, portfolios of work, performance reviews and work logs/diaries.

An Apprentice can plan and review their use of predefined or commonly used tools and techniques for complex and non-routine activities. As a result of reviewing their work, they will be able to devise solutions in the use of these in order to improve productivity for themselves and others.

Through coaching on-the-job, they will develop transferable skills and techniques for self-help and in turn be prepared to offer support and advice to others.

Evidence of guided learning hours undertaken should be recorded in the apprentice's Individual Learning Plan, and updated at 12 week reviews throughout the programme.

On completion of the Apprenticeship, the total number of guided learning hours can be evidenced through submission of the Combined Qualification and Essential Skills Wales.]

# Wider key skills assessment and recognition

While Wider Key Skills are not a **mandatory** part of the framework, training providers are encouraged to provide apprentices the opportunity to achieve them.

For this framework, there are natural opportunities for Wider Key Skills to be embedded within the mandatory units of the following qualifications:

[Enter Qualification Names]
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## Improving own learning and performance

[Give examples - signpost to specific units in framework qualifications that would meet these requirements]

## Working with others

[Give examples - signpost to specific units in framework qualifications that would meet these requirements]

## Problem solving

[Give examples - signpost to specific units in framework qualifications that would meet these requirements]

# apprenticeship FRAMEWORK

For more information visit-  
[www.acwcerts.co.uk/framework\\_library](http://www.acwcerts.co.uk/framework_library)