



Qualification Manual

**EAL Level 3 Award in Digital
Communications Network Infrastructures
and Services (QCF)**

QIME3

QAN: 601/6441/4

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1.0 About EAL

Since 1964 EAL (Excellence Achievement and Learning) has been the specialist awarding organisation for the industry and related sectors. Our commitment to partnering industry together with the focus on our core sectors gives us an unrivalled understanding of the skills employers need. This results in qualifications that carry weight and respect with employers which deliver real career benefits for learners.

We support the delivery network with an unparalleled level of service to ensure that learners are well prepared for the roles they plan to take on. Through its programme of continuous improvement, EAL strives to meet the demand from employers for high performing, high quality products.

1.1 Equal opportunities and diversity

EAL expects Centres to enable individuals to have equal access to training and assessment for qualifications irrespective of their sex, marital status, age, religion, colour, race, nationality, ethnic origin or disability. In essence Centres must deliver our qualifications and units in accordance with relevant equalities legislation.

Centres are required to have in place a policy to ensure that such discrimination does not occur either directly, indirectly or as a result of pressure from other bodies. This policy should apply to all satellites Centres and there should be arrangements in place to monitor its application and effectiveness. In the unlikely event that complaints relating to issues of inequality cannot be satisfactorily resolved by the Centre; learners must be made aware of their right to appeal to EAL through the arrangements outlined in our Appeals Policy.

1.2 Complaints

Customer service is a fundamental part of EAL's commitment to you. EAL aims to ensure that all customers receive a high quality efficient service. We are always interested in feedback and if you have any comments or feedback on our qualifications, products or services, please contact the customer services team:

EAL Customer Services

Tel: +44 (0)1923 652 400

Email: customercare@eal.org.uk

2.0 Introduction to the Qualification

This qualification is gained when all the necessary units have been achieved to a minimum value of 12 credits. The centre will then be able to apply for the learner's certificate. The learner will also receive a Certificate of Unit Credit, listing all the units they have achieved.

However if they don't manage to complete the full qualification learners can still claim a Certificate of Unit Credit for the units achieved therefore, they still have proof of their ability and could complete the qualification at a later date.

Units can also be taken individually (stand-alone). The qualification manual must be used in conjunction with the delivery and assessment of any individual units to ensure that assessment requirements and methodologies are consistently applied.

There are various other qualifications, details on these can be obtained from the [EAL Website](#) or alternatively contact:

- EAL customer services :
- Tel: +44 (0)1923 652 400 Email: customer care@eal.org.uk

2.1 Qualification support materials

The following materials are available for this qualification:

Qualification Units:

These documents contain the knowledge and/or the practical assessment criteria. They also contain delivery advice, and all the centre assessment material (internal assessments). Where a unit has an externally set exam, this will be indicated on the unit. The units also contain:

- [QCF level & Credit value](#)
- Guided learning hours (GLH)
- Title, Unit purpose/aims
- Summary of learning outcomes.

2.2 Funding for this qualification

EAL accredits qualifications via regulatory bodies. The regulatory bodies then pass the information to the relevant funding agencies. Once funding is available, centres will be able to check and register against the learning aim to ensure funding is drawn down. If you are unsure whether funding is available, the first point of contact should be via your internal funding system, or alternatively contact EAL for information.

2.3 Qualification content

This qualification focuses on the knowledge and understanding within digital technologies that are required to work in a rail engineering environment and has been developed in consultation with employers to ensure that it meets the needs of learners in the rail sector at level 3. This Award does not require occupational evidence and may be delivered off the job. The EAL Centre Operations Manual **must** be adhered to in the delivery of this qualification.

2.4 Achievement of this Qualification

To achieve this qualification, learners must obtain the mandatory unit and any one other optional unit; full details are overleaf in Section 3.0 of this manual. The learner will also receive a Certificate of Unit Credit, listing all the units they have completed.

2.5 Progression opportunities

The EAL Level 3 Award in Digital Communications Network Infrastructures and Services (QCF) will support the learner to progress within their signalling or telecoms role via further training to one of the following roles:

- Functional tester
- Installer
- Maintainer

Industry Recognised Qualifications

- EAL Level 3 NVQ Diploma in Rail Engineering Signaller Installer (QCF) 601/3865/8
- EAL Level 3 NVQ Certificate in Rail Engineering Signalling Functional Tester (QCF) 601/3855/5
- EAL Level 3 NVQ Certificate in Rail Engineering Signaller Installer (QCF) 601/3839/7
- EAL Level 3 NVQ Diploma in Rail Engineering Telecoms Installer (QCF) 601/3838/5
- EAL Level 3 NVQ Certificate in Rail Engineering Telecoms Installer (QCF) 601/3837/3

Further information about apprenticeships and industry recognised qualifications in the rail engineering sector can be obtained from the EAL website, or by contacting:

EAL Customer Services

Tel: +44 (0)1923 652400

Email: customercare@eal.org.uk

3.0 Rule of Combination (Qualification Structure)

This qualification will be achieved when the learner has successfully completed the common mandatory unit followed by at least one of optional units to a minimum value of 12 credits.

Mandatory Unit: *Must be completed:*

EAL Code	Unit Title	Level	Credit	GLH	OfQual Code
QDCN3/001	<input type="checkbox"/> Understanding health and safety in an industrial environment	2	3	20	<u>F/600/0495</u>

Optional Units Group A: *Select one of the following units:*

QDCN3/002	<input type="checkbox"/> Rail telecommunications engineering	3	9	60	D/507/3296
QDCN3/003	<input type="checkbox"/> Next generation synchronous digital hierarchy (NG SDH)	3	9	60	H/507/3302
QDCN3/004	<input type="checkbox"/> Passive optical networks (PONS) and air blown fibre installation and maintenance	3	9	60	T/507/3305

4.0 Centre and Qualification Approval

Centres wishing to run these qualifications will need to comply with the Qualification Manual and EAL's centre recognition criteria for this qualification upon accreditation and launch. Centres must also put in place the appropriate physical and human resources and administration systems to effectively run the qualification.

For *existing* EAL Centres to put these qualifications on your centre remit:

- To add this Qualification to your Centre Qualification remit create and complete a Qualification Approval Application form in Smarter Touch and submit to EAL.

For *non* EAL Centres to gain centre approval to run these qualifications:

- Please contact the EAL Customer Services Department who will be delighted to hear from you: Tel: +44 (0)1923 652 400
Email: customercare@eal.org.uk

5.0 Profiles and Requirements

The personnel involved in these qualifications must meet ALL the requirements in this section.

5.1 Staff Responsible for Registering and Certifying Learners

Centres are required to appoint a suitable member of staff who can take responsibility for registering learners onto the qualification submitting entries for externally set assessments to EAL, and taking receipt of external assessment procedures. They may also be responsible for applying to EAL for learner certification the role may be undertaken by the same person who undertakes quality assurance (see Section 5.4).

5.2 Teaching Staff

Teaching staff must have knowledge and understanding of:

- The occupations covered by this qualification
- The qualification structure and content.
- The learning outcomes and assessment criteria they are delivering.

It is a recommendation that teaching staff will:

- Have 2 years' experience in teaching/training
- or
- Be working towards an appropriate teaching/training qualification
- or
- Hold an appropriate teaching/training qualification (e.g. Cert Ed or Learning and Development trainer units)

5.3 Assessors

The Centre must provide EAL with the names of any teachers, trainers or other individuals who will undertake internal assessment, so that these can be approved prior to them carrying out an assessment role.

Internal Assessors must:

- Have knowledge and understanding of the assessment criteria they are assessing
- Have knowledge and understanding of the qualification structure, content and assessment components
- Understand the assessment process

It is a recommendation that teaching staff will:

- Have 2 years' experience in assessment (e.g. within an N/SVQ or teaching/training environment)
- or
- Be working towards an appropriate assessment qualification such as the 'Level 3 Award in Assessing Vocationally Related Achievement'
- or
- Hold an appropriate assessment qualification (as above)

Internal Assessors that hold either 'D' or 'A' units must also have evidence of Continuing Professional Development (CPD) to demonstrate compliance with the current Assessor standards.

Note: 'Candidate Assessors' who are working towards their Assessor qualification and who do not have the requisite 2 years' experience must be supervised by a Qualified Assessor. Candidate Assessors must have a clear action plan for achieving the Assessor qualifications. Assessor approval will be withdrawn if a relevant qualification has not been attained within 18 months.

Assessor Continuing Professional Development

The occupational competence of assessors must be updated on a regular basis and be periodically confirmed via continuing professional development (CPD) via the Assessment Centre. Evidence of CPD will be sought by the External Verifiers for all approved Assessors at the Centre.

It is the responsibility of each assessor to identify and make use of opportunities for CPD, such as industry conferences, access to trade journals, and Professional Body/Trade Association events, at least on an annual basis to enhance and upgrade their professional development and technical knowledge. It is imperative that records are kept of all such CPD opportunities/occasions and that they provide evidence of cascading such technical knowledge and industry intelligence to all relevant colleagues.

5.4 Quality Assurance Staff

This relates to staff undertaking internal verification of assessment. The Centre MUST provide EAL with the names of any teachers, trainers or other individuals who will undertake internal quality assurance, so that these can be approved prior to them carrying out this role.

The main focus of internal quality assurance for this qualification is:

- The quality assurance of assessment procedures, including standardisation of assessment practice across different assessors within the Centre
- Internal standardisation of marking and moderation of learner marks awarded

Internal quality assurance staff must:

- Be familiar with the occupation(s) covered by this qualification
- Have knowledge and understanding of the qualification structure and content
- Understand the assessment process and the role of quality assurance

Internal quality assurance staff must also:

- Have experience in quality management/internal verification
or
- Hold an appropriate qualification such as the 'Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practice, or the 'Level 4 Certificate' in Leading the Internal Quality Assurance of Assessment Processes and Practice'

Quality assurance staff are also required to have a minimum of occupational experience evidenced by having an engineering sector related qualification or proven sector competence and/or experience, plus access to relevant 'occupational expertise', which will enable them to conduct their quality assurance role appropriately. This evidence and access to 'occupational expertise' is quality assured by EAL.

Continuing professional development of internal quality assurance staff

The occupational experience of quality assurance staff must be updated on a regular basis and be periodically confirmed via continuing professional development (CPD) via the Assessment Centre. This will be quality assured by EAL.

It is the responsibility of each internal quality assurance staff member to identify and make use of opportunities for CPD, such as industry conferences, access to trade journals, and SSC and Professional Body/Trade Association events, at least on an annual basis to enhance and upgrade their professional development and technical knowledge. It is imperative that records are kept of all such CPD opportunities/occasions and that they provide evidence of cascading such technical knowledge and industry intelligence to all relevant colleagues.

5.5 Staff Invigilating On-Screen Examinations

Members of staff with responsibility for invigilating on-screen examinations must know, understand and comply with the Procedures for Conducting the Exam Component within EAL Qualifications (EAF 1), which are published by EAL. These members of staff must also:

- Have experience in conducting and controlling exam sessions
- or**
- Be supervised by an individual experienced in conducting and controlling exam sessions .

Note: A teacher/tutor who has prepared the learners for the subject of the exam must not be the sole supervisor at any time during an exam for that subject(s).

5.6 Learners with Particular Requirements

There are no formal entry requirements for this qualification however centres should ensure that the learners have the potential to achieve these qualification Learners must have the minimum levels of literacy and numeracy to complete the learning outcomes and the external assessment.

Centres should make learners with particular requirements aware of the content of the qualification and they should be given every opportunity to successfully complete the qualification EAL will consider any reasonable suggestions for, and from, those with disabilities that would help them to achieve the learning outcomes without compromising the standards required.

5.7 Age Restrictions

Learners must be at least 16 years old.

6.0 Assessment

The assessment of this qualification has two aspects – internal (centre set and marked) assessments and an external (EAL provided and centre marked) study pack. The learner must pass all the internal assessments and the external assessment of their chosen units to achieve the qualification.

EAL will monitor and externally verify both forms of assessment. The single common mandatory unit QDCN 001 will be only subject to external assessment (see below). The remaining units QDCN 002 – 004 will only be subject to internal centre set and marked assessment.

EAL Code	Unit Title	Level	Credit	GLH	OfQual Code
QDCN3/001	<input type="checkbox"/> Understanding health and safety in an industrial environment	2	3	20	<u>F/600/0495</u>
QDCN3/002	<input type="checkbox"/> Railway telecoms	3	9	60	D/507/3296
QDCN3/003	<input type="checkbox"/> Next Generation Synchronous Digital Hierarchy (NG SDH)	3	9	60	H/507/3302
QDCN3/004	<input type="checkbox"/> Passive Optical Networks (PONS) and Air Blown Fibre Installation and Maintenance	3	9	60	T/507/3305

External Assessment

External assessment comprises an EAL provided and centre marked study pack which has been designed to assess the knowledge and understanding in the core mandatory unit. The pack can be completed by the learners after suitable teaching has taken place in relation to the health and safety of the environment they are working within.

Assessment of qualification		
QDCN3/001	Understanding health and safety in an industrial environment	Completed and centre marking of study pack
QDCN3/002	Railway telecoms	Centre set and marked assessment
QDCN3/003	Next Generation Synchronous Digital Hierarchy (NG SDH)	Centre set and marked assessment
QDCN3/004	Passive Optical Networks (PONS) and Air Blown Fibre Installation and Maintenance	Centre set and marked assessment

Key Points

- The EAL coordinator within the Centre will assume responsibility for liaison and correspondence regarding the delivery of all assessment components
- Centres will be sampled and spot checks will be carried out by EAL to ensure assessments are delivered in accordance with EAL published procedures.

Internal Assessment (Centre set and marked assessment)

Internal assessment includes practical and/or theory assessments, which have been designed to assess the knowledge, understanding and skills of learners for individual units. The internal assessment for each unit is set the centre marked by members of the delivery team at the Centre, all assessments must be validated by EAL prior to use by the centre. All assessment decisions are then subject to internal standardisation and external quality assurance.

Internal assessments involve collecting and evaluating evidence that demonstrates achievement of the learning outcomes in each unit. The internal assessments are accompanied by marking criteria, checklists and other materials to ensure that the delivery team is consistent in their approach to internal assessments across learners.

Centres are responsible for ensuring that internal assessment is suitably controlled to ensure that assessment decisions are valid and reliable, and that work submitted for assessment by learners is prepared and produced by them independently, without assistance from others, and free of plagiarism.

Where the assessment takes the form of written/short answer or multiple choice question papers, these should be treated as controlled assessments therefore imposing the necessary restrictions on the learner, as necessary. Guidance sheets have also been created to hand out to the learners, to ensure they are aware how to complete the multiple choice and short answer questions papers. All learning outcomes of the qualification must be assessed. In order to help meet this requirement it is advised that learners should produce a logbook/portfolio where they can file and make reference to evidence that shows their achievements against the learning outcomes. Centres should also maintain an assessment and feedback record for each learner, which details the evidence evaluated against the learning outcome and the feedback given to the learner. These records must be available to the External Verifier. Further guidance on assessment is provided within each unit Delivery Pack.

Re-taking internal assessments

If any learners fail to reach the required standard in the internal assessment for a given unit they will be permitted to re-take this assessment after feedback and appropriate tuition has taken place.

Standardisation of internal assessments

Members of the internal quality assurance team at the Centre have an important role to play in ensuring that internal assessment is standardised. In particular, they should work with tutor/assessors to ensure that the correct procedures are being followed at all times, and to ensure that assessment decisions taken by different assessors are consistent, fair and reliable. Key activities will include:

- Meeting with tutor/assessors (individually and collectively) throughout the course to discuss quality assurance and standardisation issues and provide support and guidance where needed
- Observing tutor/assessors and giving them feedback to help improve their assessment technique
- Sampling learner evidence across different learner cohorts to ensure that appropriate standards have been met
- Arranging cross-marking of learner work to compare results and agree benchmarks.

6.1 External Quality Control of Assessment

There are two major activities in which EAL interacts with the Centre in relation to the External Quality Control of Assessment for this qualification and these are:

- **Recognition:** When a Centre decides to offer the qualification the EAL External Verification (EV) ensures that the Centre is suitably equipped and prepared for delivery and assessment.
- **Engagement:** Throughout the ongoing delivery of the qualification EAL, through EV monitoring and other mechanisms will review the quality and consistency of assessment and internal quality assurance and recommend actions to address issues of concern.

Recognition

In granting approval, EAL, normally through its EVs, will ensure that the prospective Centre:

- Meets any procedural requirements specification by EAL.
- Has sufficient and appropriate physical and staff resources.
- Meets relevant health and safety and/or equality and access requirements.
- Has a robust plan for the delivery, assessment and QA for the qualification (including, where appropriate, scope for involving employers).

EAL may decide to visit the Centre to view the evidence provided.

Engagement

EAL, through EV Engagement and other mechanisms will ensure that:

- A strategy is developed and deployed for the on-going monitoring of the centre – this will be based on an active risk assessment of the Centre, and will include details of the learner, assessor and internal quality assurer's sampling strategy and the rationale behind this
- The Centre's internal quality assurance processes are effective in learner assessment
- Outcomes of internal assessment are verification through sampling, to ensure standards are being maintained
- Sanctions are applied to a Centre where necessary and that corrective actions are taken by the Centre and monitored by the EV
- Reviews of EAL's external auditing arrangements are undertaken

Appendix 1: Learner Registration and Certification

Learners must be registered with EAL on a code which relates to the qualification -this **must be** completed prior to assessment. Both learner registration and certification can be completed on line at the EAL Website www.eal.org.uk. For paper based registration and certification use forms CRF1, and CRF1A. These are located on the EAL Website, for guidance on registration and Certification please refer to the Registration and Certification User Guide.

To Register the Learner on the Chosen Qualification/Pathway Code:

Qualification Title	Code
EAL Level 3 Award in Digital Communications Network Infrastructures and Services (QCF)	601/6441/4

For further information please contact EAL Customer Services +44 (0)1923 652 400.