Qualification Manual

EAL Level 2 Diploma in Practical Engineering
Qualification Number: 610/0089/8

> **To be awarded a bilingual certificate and to access materials made available in Welsh, please register using the pathway code: 610/0089/8W**

Issue 1

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1.0 About EAL

For over fifty years, EAL has been the specialist awarding organisation for engineering, manufacturing, building services and related sectors. Developed to the highest technical standards, our qualifications reflect ever-changing industry and regulatory needs. We support the providers of our qualifications with an unparalleled level of service to ensure that learners are well prepared to take the next step in their journeys, whether study, an apprenticeship or work.

Through industry partnerships with EAL centres and training providers, decades of experience supporting our core sectors, and our role as part of the Enginuity Group, we have built unrivalled knowledge and understanding of employer skills needs. As a result, EAL's skills solutions, including apprenticeship End-Point Assessment, External Quality Assurance and qualifications are respected and chosen by employers to deliver real lifelong career benefits for all our learners. That's why in the last ten years, 1.2 million people across the UK have taken EAL qualifications.

1.1 Equal Opportunities and Diversity

EAL expects its centres to enable learners to have equal access to training and assessment for qualifications in line with equalities legislation. Further details can be located in the EAL Equal Opportunities and Diversity Policy:
http://www.eal.org.uk/centre-support/centre-support/policies-and-important-documents

1.2 Customer Experience and Feedback

Customer Experience 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 Experience team:

EAL Customer Experience
Tel: +44 (0)1923 652 400
Email: Customer.Experience@eal.org.uk

2.0 Introduction to the Qualification

Why has this qualification been developed?

This qualification has been developed as part of EAL's wider response to the sector review of qualifications and qualification systems in engineering, advanced manufacturing and energy published by Qualification Wales in October 2020. An executive summary can be found using the following link:

https://www.qualificationswales.org/media/6733/eame-exe-summary-eng-sept-2020.pdf

Within this review, Qualification Wales encourages EAL and other awarding bodies/organisations to make available appropriate practical qualification for secondary schools who are currently offering the Level 2 Performing Engineering Operations (PEO) to learners under 16. The review primarily focused on qualifications that were eligible for use on publicly funded programmes of learning for learners under the age of 19 – those taken in secondary schools and further education colleges, and as part of apprenticeship programmes.

EAL also recognises the merits of this review in taking the opportunity to consider the outcomes as also being relevant to learners at all ages within similar educational environments across the different nations (England & Northern Ireland).

Who is this qualification for and what are the benefits?

This qualification is for anyone from age 14 who is interested in developing skills and knowledge within a range of engineering disciplines, whether that is to embark on a career within engineering through a subsequent apprenticeship or within other sectors where those skills and knowledge are transferable. Interest may come from those who are presently in compulsory education (pre-16) as well as those who have recently left compulsory education, but who are not in education, employment or training, as well as those who may be long-term unemployed looking to retrain or gain employment and/or an apprenticeship within the engineering sector.

What does this qualification cover?

This qualification provides the opportunity for the learner to take a practical approach to developing skills and knowledge in a range of chosen engineering disciplines such as fitting, welding, additive manufacturing etc as well as to introduce learners to topics within the context of an engineering environment to include health & safety, communication, working effectively and individual rights & responsibilities.

2.1 Accreditation and Industry Support for this Qualification

This qualification is:

- regulated at Level 2
- supported by a range of stakeholders within the sector

2.1 Qualification Support Materials

The following materials are available for this qualification:

- **Delivery packs**: which contain the qualification units, relevant tutor/assessor guidance relating to the delivery and assessment and marking schemes for internally assessed practical and/or theory assessments
- **Learner assessment packs:** which contain the qualification units, the internally assessed practical, assessment checklists and associated guidance for learners
- **Knowledge assessments:** which contain knowledge assessments that must be completed by the learner

All other materials can be accessed by EAL registered Centres from the EAL website: http://eal.org.uk/

2.2 Achievement of the Qualification

The **EAL Level 2 Diploma in Practical Engineering** will be awarded when the learner has successfully completed:

- Three mandatory units

Plus:
- Three optional units in line with the rule of combination

For further information on the Rules of Combination, please see Section 3.

This qualification has a minimum 240 Guided Learning Hours and 300 Total Qualification Time (hours). The overall grading type for this qualification is **Pass/Refer**.

The centre will then be able to apply for the learner's certificate once authorised by the internal quality assurer.

Unit Claims and/or Full Claims

Centres may make individual unit claims for learners as they achieve each unit of their qualification and once all units have been completed and achieved, they may submit a full claim request, or alternatively the centre can submit a one off 'full claim' request when learners have completed and achieved all elements of their qualification. Where a learner leaves their course/programme part way through for any reason (for example, they no longer wish to study toward that particular qualification on grounds of ill health or personal circumstances), they will be entitled to be certificated for any units of the qualification they have completed and achieved to that date. Centres must make the specific unit claim requests as appropriate through on-line services.

3.0 Qualification Structure

3.1 Rule of Combination

The **EAL Level 2 Diploma in Practical Engineering** will be awarded when the learner has successfully completed **three mandatory units**, plus **three optional units** from the list below.

This qualification has a minimum guided learning hours (GLH) of **240** and a Total Qualification Time (TQT) of **300** hours. Each unit has 10hrs of non-guided learning allocated.

Mandatory Units: all three units must be completed:

EAL Code	Unit Title	Level	GLH	Ofqual Code
ESK2/001	Health and safety within an engineering environment	2	30	T/650/0383
ESK2/002	Communicating and working effectively within an engineering environment	2	30	Y/650/0384
ESK2/003	Working relationships and individual rights and responsibilities within an engineering environment	2	30	A/650/0385
Optional Units: **Three** of the following units must be completed:				
ESK2/004	Practical 2D CAD draughting techniques	2	50	D/650/0386
ESK2/005	Practical hand fitting techniques	2	50	F/650/0387
ESK2/006	Practical mechanical assembly techniques	2	50	H/650/0388
ESK2/007	Practical manual turning techniques	2	50	J/650/0389
ESK2/008	Practical manual milling techniques	2	50	M/650/0390
ESK2/009	Practical sheet metal and assembly techniques	2	50	R/650/0391
ESK2/010	Practical use of wood for pattern, modelmaking or other engineering applications	2	50	T/650/0392
ESK2/011	Practical assembly of pattern, model or engineering woodwork components	2	50	Y/650/0393
ESK2/012	Practical use of manual metal arc welding equipment	2	50	F/650/0396
ESK2/013	Practical use of manual TIG or plasma-arc welding equipment	2	50	J/650/0398

ESK2/014	Practical use of semi-automatic MIG, MAG and flux-cored arc welding equipment	2	50	Y/650/0400
ESK2/015	Practical additive manufacturing (3D printing)	2	50	A/650/0401
ESK2/016	Practical 3D CAD modelling	2	50	D/650/0402

There are no barred unit combinations.

3.2 Recognition of Prior Learning (RPL)

Consideration must be given to EAL's Recognition of Prior Learning (RPL) Policy. Specific guidance in relation to this L2 Diploma in Practical Engineering qualification:

- Achievement of this qualification, units, unit or completed assessed criteria should **NOT** be used to accredit learner achievement with respect to 'performance' towards an occupational unit, units, or whole occupational qualification e.g., L2 NVQ in Performing Engineering Operations.
- Where applicable it may be acceptable to RPL relevant aspects with respect to 'knowledge' from this qualification towards appropriate unit or units of an occupational qualification when undertaken in accordance with EAL's RPL policy.

4.0 Centre and Qualification Approval

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

Please refer to Section 5 for the requirements of centre staff involved in the delivery of the qualification.

For existing EAL centres to put the qualification on your centre 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 the qualification, please contact EAL Customer Service:

EAL Customer Experience
Tel: +44 (0)1923 652400
Email: customer.experience@eal.org.uk

5.0 Profiles and Requirements

The staff involved in the delivery of this qualification at the Centre must meet the requirements in this section.

5.1 Staff Responsible for Registering and Certification of Learners

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

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 two 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 Learners

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

Age restrictions

Learners must be at least 14 years old.

5.4 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
- Knowledge and understanding of the qualification structure, content, and assessment components
- Understand the assessment process

It is a recommendation that staff conducting assessment:

- 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).

Assessors that hold either 'D' or 'A' units should 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 qualifications and those 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 qualification. 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 Quality Assurer 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.

5.5 Internal Quality Assurers

This relates to staff undertaking internal quality assurance of assessment. The Centre MUST provide EAL with the names of any teachers, trainers or other individuals who will undertake internal quality assurance.

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

- The quality assurance of delivery and assessment to include observations of teaching/delivery, observation of assessments for both knowledge and practical, teacher/assessor discussion, interviewing learners, sampling, and

confirming assessment decisions, verifying assessment records have been correctly completed and that evidence is valid, reliable, sufficient and attributable to the learner as well as having been adequately referenced

- To assure internal standardisation of assessment practice is efficient and effective, to include the standardisation of assessment tasks in advance, verifying that they provide adequate opportunity for the learner to be assessed against the learning outcomes and assessed criteria
- The moderation of completed knowledge and practical assessments to ensure a pass mark has been awarded accurately and consistently by assessors across learners
- The above is not an exhaustive list; any Centre who are in doubt as to quality assurance requirements and responsibilities should in the first instance refer to relevant guidance available to recognised Centres within the 'documents' library on Smarter Touch before contacting their Centre's allocated External Quality Assurer (EQA) or External Moderator (EM) e.g., 'EAL – GUIDANCE – Quality Assurance requirements' and 'EAL Guidance on Being a Quality Assurer'

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/quality assurance
  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 that hold either 'D' or 'V' units should also have evidence of continuing professional development (CPD) to demonstrate compliance with the current assessor standards.

Note: 'candidate internal quality assurers' who are working towards their quality assurance qualification and those who do not have the requisite 2 years' experience must be supervised by a qualified internal quality assurer. Candidate internal quality assurers must have a clear action plan for achieving their internal quality assurance qualification. Internal quality assurer approval will be withdrawn if a relevant qualification has not been attained within 18 months. It is a recommendation that quality assurance staff have access to relevant 'occupational expertise', which will enable them to conduct their quality assurance role appropriately.

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.

6.0 Assessment

The following table indicates the assessment components that are included in the qualification and for each component:

- Who is responsible for setting and marking the component
- How the component is quality assured

Assessment component	Set by:	Marked by:	Method of quality assurance	
			Internal	External
Centre marked practical / theory assessments[1]	EAL	Centre	On-going standardisation within the Centre	Quality assurance and continuous monitoring via EQA/EM visits

1. Refer to Section 6.5 Internal (EAL Set and Centre Marked) Assessments.

A breakdown showing the assessment requirements for each unit is shown in the table below:

EAL Code	Unit Title	Assessment Method
ESK/001	Health and safety within an engineering environment	Centre marked practical and knowledge assessment
ESK2/002	Communicating and working effectively within an engineering environment	Centre marked knowledge assessment
ESK2/003	Working relationships and individual rights and responsibilities within an engineering environment	Centre marked knowledge assessment
ESK2/004	Practical 2D CAD draughting techniques	Centre marked practical and knowledge assessment
ESK2/005	Practical hand fitting techniques	Centre marked practical and knowledge assessment
ESK2/006	Practical mechanical assembly techniques	Centre marked practical and knowledge assessment
ESK2/007	Practical manual turning techniques	Centre marked practical and knowledge assessment
ESK2/008	Practical manual milling techniques	Centre marked practical and knowledge assessment
ESK2/009	Practical sheet metal and assembly techniques	Centre marked practical and knowledge assessment
ESK2/010	Practical use of wood for pattern, modelmaking or other engineering applications	Centre marked practical and knowledge assessment
ESK2/011	Practical assembly of pattern, model or engineering woodwork components	Centre marked practical and knowledge assessment
ESK2/012	Practical use of manual metal arc welding equipment	Centre marked practical and knowledge assessment

ESK2/013	Practical use of manual TIG or plasma-arc welding equipment	Centre marked practical and knowledge assessment
ESK2/014	Practical use of semi-automatic MIG, MAG and flux-cored arc welding equipment	Centre marked practical and knowledge assessment
ESK2/015	Practical additive manufacturing (3D printing)	Centre marked practical and knowledge assessment
ESK2/016	Practical 3D CAD modelling	Centre marked practical and knowledge assessment

6.1 Delivery Environment

Delivery of the practical elements of this qualification must be taught/assessed and the internal practical assessments completed by the learner within a suitable sheltered environment and **NOT** within the workplace. With respect to this qualification, EAL's interpretation of a suitable sheltered environment would include:

- where learners are directly supervised and,
- a separate and contained area away from normal production and pressures of work that allows for hazards to be minimised,
- suitable time for learners to develop minimum safe level of skills, knowledge and understanding to be achieved and demonstrated before being exposed to hazards within an industrial environment.

The delivery environment must be suitable as to minimise the risks to learners as far as is reasonably practicable, whilst providing appropriate engineering resources for the units being undertaken. A dedicated workshop within a Training Centre, School or College is likely to provide the most appropriate environment for the learners to be supervised and work safely. It is anticipated learning will result from a blend of taught sessions, observing demonstrations and carrying out practical activity.

Knowledge elements may be taught within a classroom or other similar environment or through the use of distance/remote learning technologies. Where distance/remote learning is utilised, delivery must still be guided, and learners given appropriate support. Whilst some learning may take place at a distance/remotely, the practical and internal knowledge assessments must be completed by the learner within the sheltered environment.

Centres/delivery environments must comply within all applicable Health and Safety legislation, regulations, and guidance.

6.2 Control of Qualification Documentation

Delivery packs

Delivery packs contain relevant information for delivery staff to use as reference. In relation to this qualification, elements of the delivery pack may be shared with the learner, but this must be limited to the learning outcomes, assessment criteria, delivery advice and assessment specification to include the assessment scope/range. No other part of the delivery pack e.g., detail of any knowledge assessment is to be shared with the learner as this may contain confidential information for delivery staff only.

Learner assessment packs and knowledge assessments (necessary controls)

Learner assessment packs contain instructions relating to the practical and knowledge assessment. Learners will require access to these documents when they are ready to be assessed. Assessors should issue the learner assessment packs to the learner, together with any Centre devised practical assessment task or tasks which have been developed based on the assessment specification provided by EAL. These documents must be controlled by the assessor, provided to the learner as an when required but not retained by the learner. All assessment documentation must be retained by the assessor &/or internal quality assurer within the sheltered environment, unless where otherwise specified. Learners must be appropriately supervised when undertaking the practical and knowledge assessments. The level of supervision must be sufficient to safeguard the learners' health and safety, and ensure the evidence generated is attributable to the learner. The knowledge assessments are separate to the learner assessment pack, learners will require access to these documents as and when required once they are ready to be assessed. These knowledge assessments must be controlled in the same manner as the learner assessment packs.

Electronic systems and records

Interactive word-based versions of the learner assessment pack and knowledge assessments are available through on-line publications. Where an electronic system is used to administer the electronic versions of the learner assessment pack and/or knowledge assessment, the system used <u>must operate with the necessary controls in the same manner as that described under 'Learner assessment packs and knowledge assessment'</u> i.e., no assessment documentation should be left with the learners to have uncontrolled access etc. Any electronic system that is used must prevent the unauthorised sharing of assessment documentation by learners i.e., via email etc. Where electronic systems with the necessary controls are used, evidence such as learner reports and completed knowledge assessment answers may be uploaded or embedded within the system.

E-portfolio systems are generally NOT considered appropriate for delivering/administering internal assessments electronically. E-portfolio systems may be used to track learner attainment, record assessment outcomes and feedback. The following elements from the delivery and learner assessment packs may be replicated/uploaded to an e-portfolio system, <u>delivery pack</u>: learning outcomes, assessment criteria, assessment specification to include the assessment scope/range. <u>Learner assessment pack</u>: record of achievement for the knowledge assessment, assessment specification to include the assessment scope/range, assessment checklist for the practical assessment and assessment feedback.

It is the responsibility of the internal quality assurer (IQA) for the qualification in advance to verifier the electronic system's functionality and to agree the systems capabilities with regards to the control of qualification documentation before first use and to quality assure what has been uploaded/embedded is accurate and fit for purpose.

In relation to this qualification, evidence should generally not be uploaded to an e-portfolio system without the necessary controls but may reference to what the evidence is and where this is located. Where electronic or e-portfolio systems are used, the system must

be capable of capturing auditable electronic declarations of authenticity, learner and assessor sign off or the electronic equivalent.

6.3 Retaking Internal Assessments (Practical and Knowledge)

Learners who fail to achieve a pass (referred) following an internal assessment, may be reassessed following feedback and an appropriate period of training has taken place. The learner need only be reassessed against the relevant assessment criteria for which they were referred. Assessors may set appropriate tasks &/or questions using their knowledge and experience to reassess the learner's skills and knowledge. All reassessments must be appropriately evidenced, and completed records retained.

6.4 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. 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

6.5 Internal Assessment

Internal assessment includes practical and/or knowledge 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 by EAL and marked by members of the delivery team at the Centre. Centres will be required to devise suitable tasks based on the assessment specification provided within each unit where applicable.

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 assessment. The internal assessments and the accompanying marking/assessment checklists can be found in the individual units within the delivery and learner assessment packs. Centres are responsible for ensuring that internal assessments both practical and knowledge are completed under supervision to ensure that assessment decisions are based on evidence that is valid, reliable and that the work submitted for assessment by learners is prepared and produced by them independently, without assistance from others, and free of plagiarism (attributable to the learner).

Where knowledge assessments take the form of written/short answer questions, the learners may be supervised by those who meet the assessor requirements detailed within

5.4. No time limit should be allocated for the assessments; however, any practical and knowledge assessment should be completed within the GLH allocated for the unit. Knowledge assessments should not be treated as formal examinations and there is no requirement that the knowledge assessments to be invigilated.

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 must 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 Quality Assurer. Further guidance on assessment is provided within each unit delivery pack.

7.0 Quality Control of Assessments

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 Quality Assurer (EQA) ensures that the Centre is suitably equipped and prepared for delivery and assessment.
Engagement: Throughout the ongoing delivery of the qualification EAL, through EQA 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 EQA's, will ensure that the prospective Centre:

- Meets any procedural requirements specified 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 qualifications (including, where appropriate, scope for involving employers)

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

Engagement

EAL, through EQA 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 verified, 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 EQA
- Reviews of EAL's external auditing arrangements are undertaken

8.0 Grading

The grading for this qualification is either **PASS** or **REFER**. Learners must achieve a Pass in ALL assessment components for the qualification to be awarded. If the learner is referred for a component, the learner must be given feedback to enable the learner to understand those areas of skills, knowledge or understanding where further learning &/or practice is needed.

Appendix 1: Unit Summary/Summaries

Unit Code	Title
ESK2/001	**Health and safety within an engineering environment**
Know the responsibilities required to meet health and safety legislation and regulations Know the organisational fire, accident and emergency procedures Know the hazards and risks in an engineering environment and how they are identified Know how to follow safe working practices and procedures	
ESK2/002	**Communicating and working effectively within an engineering environment**
Know how to communicate effectively within an engineering environment Know the types of technical information used for communication in an engineering environment Know how planning and preparation supports being effective in an engineering environment Know and understand the importance of effective communication Know and understand why performance reviews are important for effective working	
ESK2/003	**Working relationships and individual rights & responsibilities within an engineering environment**
Know how attitude has an influence on behaviour Know the importance of creating and maintaining good working relationships Know the importance of effective team working Know the main statutory laws and rules that have an effect on employment Know how employment fits into a career structure	
ESK2/004	**Practical 2D CAD draughting techniques**
Know how to produce engineering drawings using 2D CAD draughting techniques Be able to prepare and plan for producing engineering drawings using 2D CAD draughting techniques Be able to use 2D CAD draughting techniques to produce engineering drawings Be able to restore the work area upon completion of 2D CAD draughting activities Be able to deal with problems whilst undertaking 2D CAD draughting activities	
ESK2/005	**Practical hand fitting techniques**
Know how to produce components using hand fitting techniques Be able to prepare and plan for hand fitting activities Be able to use hand fitting techniques to produce components Be able to restore the work area upon completion of hand fitting activities Be able to deal with problems whilst undertaking hand fitting activities	
ESK2/006	**Practical mechanical assembly techniques**
Know how to produce mechanical assemblies Be able to prepare and plan for producing mechanical assemblies Be able to use appropriate techniques to produce mechanical assemblies Be able to restore the work area upon completion of mechanical assembly activities Be able to deal with problems whilst undertaking mechanical assembly activities	
ESK2/007	**Practical manual turning techniques**
Know how to prepare and use a manual centre lathe for turning operations Be able to prepare and plan for using a manual centre lathe for turning operations Be able to use appropriate techniques to produce components using a manual centre lathe for turning operations Be able to restore the work area upon completion of turning operations Be able to deal with problems whilst undertaking turning operations	

ESK2/008	Practical manual milling techniques
Know how to prepare and use a manual milling machine Be able to prepare and plan for using a manual milling machine Be able to use appropriate techniques to produce components using a manual milling machine Be able to restore the work area upon completion of milling operations Be able to deal with problems whilst undertaking milling operations	

ESK2/009	Practical sheet metal and assembly techniques
Know how to produce sheet metal components and assemblies Be able to prepare and plan for sheet metal activities Be able to use appropriate techniques to produce sheet metal components and assemblies Be able to restore the work area upon completion of sheet metal activities Be able to deal with problems whilst undertaking sheet metal activities	

ESK2/010	Practical use of wood for pattern, modelmaking or other engineering applications
Know how to use wood for pattern, modelmaking or other engineering applications Be able to prepare and plan for using wood for pattern, modelmaking or other engineering applications Be able to produce components using wood for pattern, modelmaking or other engineering applications Be able to restore the work area upon completion of using wood for the pattern, modelmaking or other engineering applications Be able to deal with problems whilst using wood for pattern, modelmaking or other engineering activities	

ESK2/011	Practical assembly of pattern, model or engineering woodwork components
Know how to assembly pattern, model or engineering woodwork components Be able to prepare and plan for assembling pattern, model or engineering woodwork components Be able to produce pattern, model or engineering woodwork assemblies Be able to restore the work area upon completion of assembly activities Be able to deal with problems whilst undertaking assembly activities	

ESK2/012	Practical use of manual metal arc welding equipment
Know how to prepare and use manual metal arc welding equipment Be able to prepare and plan for using manual metal arc welding equipment Be able to produce welded joints using manual metal arc welding equipment Be able to restore the work area upon completion of manual metal arc welding activities Be able to deal with problems whilst undertaking manual metal arc welding activities	

ESK2/013	Practical use of manual TIG or plasma-arc welding equipment
Know how to prepare and use manual TIG or plasma-arc welding equipment Be able to prepare and plan for using manual TIG or plasma-arc welding equipment Be able to produce welded joints using manual TIG or plasma-arc welding equipment Be able to restore the work area upon completion of manual TIG or plasma-arc welding activities Be able to deal with problems whilst undertaking manual TIG or plasma-arc welding activities	

ESK2/014	Practical use of semi-automatic MIG, MAG or flux-cored arc welding equipment

Know how to prepare and use semi-automatic MIG, MAG or flux-cored arc welding equipment	
Be able to prepare and plan for using semi-automatic MIG, MAG or flux-cored arc welding equipment	
Be able to produce welded joints using semi-automatic MIG, MAG or flux-cored arc welding equipment	
Be able to restore the work area upon completion of semi-automatic MIG, MAG or flux-cored arc welding activities	
Be able to deal with problems whilst undertaking semi-automatic MIG, MAG or flux-cored arc welding activities	

ESK2/015	**Practical Additive Manufacturing (3D Printing)**
Know how to produce components using additive manufacturing	
Be able to prepare and plan for producing components using additive manufacturing	
Be able to produce components using additive manufacturing	
Be able to restore the work area upon completion of additive manufacturing activities	
Be able to deal with problems whilst undertaking additive manufacturing activities	

ESK2/016	**Practical 3D CAD Modelling**
Know how to create CAD models using a 3D CAD system	
Be able to prepare and plan for creating CAD models using a 3D CAD system	
Be able to create CAD models using a 3D CAD system	
Be able to restore the work area upon completion of 3D CAD modelling activities	
Be able to deal with problems whilst undertaking 3D CAD modelling activities	

Appendix 2: 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 online at the EAL Website www.eal.org.uk. For paper-based registration and certification use the appropriate forms. 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	Pathway	Code
EAL Level 2 Diploma in Practical Engineering	England	610/0089/8
EAL Level 2 Diploma in Practical Engineering	Wales	610/0089/8W

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