

Qualification Manual

**EAL Level 3 Advanced Diploma in
Manufacturing Technologies**

(Version 1)

Qualification Code: 601/4565/1

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1.0 About EAL

Since 1964, **EAL (Excellence Achievement and Learning)** has been awarding superior vocational qualifications and apprenticeship components for engineering, building services and related sectors.

Developed to the highest technical standard, our qualifications are regularly updated to reflect regulatory and technical changes. We support the providers of our qualifications with an unparalleled level of service to ensure that learners are well prepared for the roles they plan to take on.

EAL recognise the value of skills in the work environment as one of the 5 key drivers of productivity; essential for economic growth and bringing a number of wider social benefits. 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.

Where 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 via the arrangements outlined in our Enquiries and Appeals Policy.

1.2 Complaints

Customer service is a fundamental part of EAL's commitment to industry. Our long-term partnership with industry and recognised Centres – which is underpinned by our unique External Verification Service and world class customer service – means our support is based on unrivalled understanding of our customers' needs.

EAL aims to ensure that all customers receive a high quality and efficient service and we continually monitor the levels of service provided. There may be times, however, when you may feel that we have not provided an adequate service.

In these situations, please contact our customer services team:

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

2.0 Introduction to the Qualifications

2.1 Overview

The EAL Advanced Diploma in Manufacturing Technologies is for 16-19 year-old learners in full-time education who are considering a career in manufacturing. It is specifically designed to allow progression into employment or an apprenticeship within sectors such as Manufacturing, Engineering and Design or on to higher education in related engineering and technology subjects or other generic higher education programmes. The qualification is suitable for those interested in working in one of many manufacturing environments, and includes the influences of sustainability, design and innovation on production technologies. The qualification is also suitable for adults interested in these industries or considering a career change.

The qualification provides learners with the practical hand skills required to manufacture products as well as knowledge of the immediate manufacturing environment and techniques designed to maximise productivity. It does not require evidence of occupational competence in the workplace but employers will be encouraged to contribute by setting work-based assignments, supporting mentoring processes, and assessing students' work in a simulated manufacturing environment.

The Advanced Diploma can be delivered in a school, college or be offered by a private sector trainer, providing learners have access to an infrastructure that includes a high quality simulated working environment and suitably experienced vocational staff. Assessment includes synoptic testing in an independent external testing centre, short answer questions (EAL devised and set) and centre-devised, set and marked assignments.

Some learners embarking onto this qualification may have completed a relevant level 2 qualifications and will be looking to further develop their skills and knowledge in manufacturing as part of a more specialised course of study at level 3.

Work experience is encouraged as part of the learning programme and employers should be involved in delivery and/or assessment of the qualification to help enrich the learning experience and provide a clear line of sight to work (see [Section 5.8](#) for further information on employer involvement).

2.2 Entry requirements

There are no formal entry requirements for this qualification. However, learners must be at least 16 years of age and have the potential to achieve all aspects of the qualification. In particular, learners should be able to demonstrate that they have the minimum levels of literacy and numeracy required to comply with the health and safety aspects of the scheme, the completion of the learning outcomes, and the assessments.

2.3 Qualification content

The qualification has **THREE** mandatory units. These cover the overarching knowledge and understanding that is required by someone aspiring to work in manufacturing industries, including:

- Understanding the wider importance of manufacturing
- Contribute to the safety and efficiency of a manufacturing process
- Understand the application of production improvement techniques

The three optional units are included to allow the understanding of the specialisms required by manufacturing industries. **ONE** of the three optional units must be achieved. The optional units are:

- Understanding creativity and design for manufacture
- Understanding manufacturing for the environment
- Understanding adding value to manufacturing through innovation

The units and associated assessments, which are listed in [Section 3.0](#) and in [Section 6.0](#) of this manual, comprise 400 Guided Learning Hours (GLH).

2.4 Achievement of this Qualification

The EAL Level 3 Advanced Diploma in Manufacturing Technologies will be awarded when the learner has successfully completed:

- The **THREE** mandatory units, including any Centre marked assignments/practical tests
- **ONE** optional unit
- **The specified** synoptic short answer question paper
- **The specified** synoptic assessment

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 Advanced Diploma in Manufacturing Technologies will provide direct progression into employment within sectors such as Manufacturing, Engineering and Design or on to higher education in related engineering and technology subjects or other generic higher education programmes. The qualification will also prepare learners to progress to one of the following apprenticeships and/or Industry recognised qualifications at level 3 or 4:

Apprenticeships:

- Performing Manufacturing Operations
- Performing Engineering Operations

Industry Recognised Qualifications:

- EAL Level 3 Diploma In Business-Improvement Techniques (QCF)

- EAL Level 3 Certificate In Team Leadership in a Manufacturing Environment (QCF)
- EAL Level 4 Certificate In Group Leadership in a Manufacturing Environment (QCF)
- EAL Level 4 NVQ Diploma in Engineering Manufacture (QCF)
- EAL Level 4 NVQ Extended Diploma in Engineering Manufacture (QCF)

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

EAL Customer Services

Tel: +44 (0)1923 652400

Email: customercare@eal.org.uk

2.6 Accreditation & Industry Support for this Qualification

The EAL Level 3 Advanced Diploma in Manufacturing Technologies has been developed in consultation with colleges, training associations and industry to ensure that it meets the needs of the manufacturing sector.

The qualification is:

- Accredited by Ofqual at level 3 of the National Qualifications Framework (NQF)
- Endorsed by employers as facilitating progression to an apprenticeship and/or one or more of the industry recognised qualifications at level 3/4*

*Letters of endorsement from employers and other organisations can be viewed on the EAL website.

2.7 Qualification Support Materials

The following materials are available for these qualifications:

- **Delivery Packs**, which contain the qualification units, all relevant tutor guidance relating to the delivery and assessment, checklists, and marking schemes for internally assessed theoretical assignments

Learner Packs, which contain the qualification units, the internally assessed theoretical assignments, the synoptic practical assessment and all associated

All EAL materials can be accessed by EAL registered Centres from the EAL Website www.eal.org.uk

3.0 Qualification Structure

The Level 3 Advanced Diploma in Manufacturing Technologies will be awarded to learners once they have completed the required assessments for ALL THREE mandatory units, and the synoptic assessment (see [Section 6](#) for further information about assessment).

Achievement of the qualification will require at least 400 Guided Learning Hours (GLH).

Mandatory Units - All units must be completed:

EAL Code	Type of Unit	Unit Title	Level	GLH	Ofqual code
ADMT 01	K	Understanding the wider importance of manufacturing	3	100	T/506/6211
ADMT 02	KSP	Contribute to the safety and efficiency of a manufacturing process	3	100	A/506/6212
ADMT 03	KSP	Understand the application of production improvement techniques	3	100	F/506/6213

Optional Units - ONE unit must be completed:

EAL Code	Type of Unit	Unit Title	Level	GLH	Ofqual code
ADMT 04	KSP	Understanding creativity and design for manufacture	3	100	J/506/6214
ADMT 05	KSP	Understanding manufacturing for the Environment	3	100	L/506/6215
ADMT 06	KSP	Understanding adding value to manufacturing through innovation	3	100	R/506/6216

Unit Types: KSP = Knowledge and Simulated Performance; K = Knowledge only

Content of the units

Each unit that forms part of the qualification relates to a defined area of skills and/or knowledge and contains the following information:

- **A unit title** – this provides a concise description of unit content
- **Guided learning hours (GLH)** – this is the number of hours of teacher-supervised or directed study time that is normally required to teach the content of the unit
- **Unit aim** – this sets out the broad purpose and objective of the unit
- **Unit assessment information** – this sets out the assessment methods for the unit and/or other specific requirements that need to be adhered to in assessing the unit
- **Learning outcomes** – these specify what a learner is expected to know, understand or be able to do as a result of the process of learning
- **Assessment criteria** – these specify the standard a learner is expected to meet to demonstrate that the learning outcomes of the unit have been achieved, and will be used as the basis for any assessments that the learner undertakes.

4.0 Centre & 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 upon accreditation and launch.

Centres must also put in place the appropriate physical and human resources and administration systems to effectively run the qualification. Please refer to [Section 5.0](#) for the requirements of Centre staff involved in the delivery of the qualification.

For *existing* EAL Centres to add this qualification to their 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 the EAL Customer Services Department who will be delighted to hear from you:

EAL Customer Services

Tel: +44 (0)1923 652400

Email: customercare@eal.org.uk

5.0 Profiles & Requirements

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

5.1 Staff responsible for registering and certificating 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 certificates.

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 (e.g. Cert Ed or Learning & Development trainer units)
or
- Hold an appropriate teaching/training qualification (e.g. Cert Ed or Learning & Development trainer units)

Note: all teaching staff within a state-maintained school in England or Wales will need to have Qualified Teacher Status (QTS), or hold the full professional status of Qualified Teacher Learning and Skills (QTLS) with the Institute for Learning (IfL). See the following link for further information:

<https://www.gov.uk/qualified-teacher-status-qts>

5.3 Moderation

The moderation of centre devised and centre marked internal assessments of this qualification is a mandatory requirement that will be subject to External Quality Assurance by EAL.

Those undertaking moderation 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.

Moderation **MUST** be carried out by someone who did not teach the units that are tested in the internal assessment.

5.4 Standardisation

All internal assessments must be subject to standardisation so that across all markers for each unit, a reliable and standardised judgement is made and maintained over time. Records of this standardisation must be maintained and made available for External Quality Assurance by EAL.

5.5 Physical Resources

Safe working is a key issue and all practical activities conducted within the Centre must be subject to up-to-date risk assessments. All learners must be properly supervised and wear the correct personal protective equipment, where appropriate. Arrangements for first aid and emergency action in case of accident must be in place.

For practical assessments, the required resources or guidance will be detailed within the associated documentation provided by EAL.

5.6 Learners with particular requirements

Centres should make learners with particular requirements aware of the practical and theoretical content of the qualification and they should be given every opportunity to complete the qualification. EAL will consider any reasonable requests for and from, those with disabilities that would help them to achieve the learning outcomes without compromising the standards required. Aids or appliances, which are designed to alleviate disability, may be used during assessment, providing they do not compromise the standard required. Any requests will be considered in line with EAL's Reasonable Adjustments Policy.

5.7 Involvement of employers in delivery and/or assessment

To provide a clear line of sight to work, enrich the learning experience, raise the credibility of the qualification in the eyes of employers, parents and learners, EAL will ensure that centres use an independent testing centre or personnel to conduct the prescribed synoptic assessment. See [5.8 Requirements for the Independent Test Centre](#)

This qualification will be enhanced by centres engaging with local or regional manufacturers and getting their support and participation in elements of the delivery and assessment.

Industry practitioner involvement should be significant and meaningful and could relate to one or more of the following activities:

- Learner undertake projects, exercises and/or assessments set with input from experienced industry practitioners
- Learners take one or more units delivered or co-delivered by industry practitioners – this could, for example, take the form of master classes or guest lectures
- Industry practitioners operating as 'expert witnesses' that contribute to the assessment of a learner's work or practice, operating within a specified assessment framework – this may be specific projects, exercises or exams, or all assessment for the qualification.

Centres should explore innovative ways of involving employers and industry practitioners in the delivery and/or assessment of the qualification and should set out their proposals in their approval application to

EAL. The implementation of these proposals will then be reviewed and monitored by EAL as part of its External Quality Assurance.

5.8 Requirements for the Independent Test Centre

For a test centres to meet the requirements of this qualification it must have available to it, staff with no personal, organisational or financial interest in the achievement of the learners. They also must have relevant and up to date experience of the manufacturing industry. This will be a focus of the External Quality Assurance conducted by EAL.

The test centre must also have sufficient tools, equipment, components, sub-assemblies and other resources as found in local or regional manufacturing industries for the purposes of creating a simulated manufacturing environment. The facilities must have recognition from local or regional manufacturers that they to simulate a manufacturing environment relevant to them.

The use of a manufacturer employer's staff training facility is likely to meet these requirements.

Details of how these requirements are met must be set out in the approval application to EAL.

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
Internal assessments ¹	Centre	Centre	Moderation, Standardisation	Moderation
Synoptic short answer ² question paper	EAL	Test centre	Moderation, Standardisation	Moderation
Synoptic practical assessment ³	EAL	Test centre	Quality assurance sampling	Quality assurance sampling

1. Refer to [Section 6.1](#) Internal assessment.
2. Refer to [6.2 Synoptic External Short Answer Questions](#).
3. Refer to [Section 6.3](#) Synoptic practical assessment.

The learner must pass **ALL** assessments to achieve the Qualification.

In accordance with DfE requirements relating to Vocational Qualifications for 16-19 year olds, learners that are unsuccessful in passing external assessments on the first attempt will be permitted **ONE** re-take using new assessment tasks provided by EAL. See Sections 6.1, 6.2 and 6.3 for further information about re-taking each assessment component.

A breakdown showing the assessment requirements for individual units is shown in the table below:

EAL Code	Unit title	Centre marked Assignment	Synoptic Practical	Synoptic question paper
ADMT01	Understanding the wider importance of manufacturing	No	No	Yes
ADMT02	Contribute to the safety and efficiency of a manufacturing process	No	Yes	Yes
ADMT03	Understand the application of production improvement techniques	No	Yes	Yes
ADMT04	Understanding Creativity and design for manufacture	Yes	No	Yes
ADMT05	Understanding Manufacturing for the Environment	Yes	No	Yes
ADMT06	Understanding Adding value to manufacturing through innovation	Yes	Yes	No

6.1 Internal assessment

The internal assessments have been used as they test areas of the qualification that easily support the learning such as appraisals and project work.

The internal assessment for units ADMT05 and ADMT06 are in short answer format and set by EAL. They are marked by members of the delivery team at the Centre. The internal assessment for units ADMT05 is set by the centre delivery team to encompass a design project. All assessment decisions are then subject to internal standardisation and External Quality Assurance.

The internal assessment requirements and the accompanying marking/assessment criteria can be found in the individual units within the Delivery Pack.

Submitting marks for the internal assessment

Subject to internal moderation being completed satisfactorily, and in accordance with EAL published procedures, the Centre should submit to EAL the confirmed achieved mark relating to the internal assessment, for each learner.

Re-taking internal assignments

If any learner fails 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.

6.2 Synoptic External Short Answer Questions

The short answer question papers are set by EAL and must be handled as directed in [Procedures for Conducting the Exam Component within EAL Qualifications' \(EAF 1\)](#).

Re-taking Synoptic External Short Answer Questions

If any learners fail to reach the required standard in the external assessment for a given unit they will be permitted **ONE** re-take only.

Submitting marks for the synoptic short answer questions

Subject to internal moderation being completed satisfactorily, and in accordance with EAL published procedures, the Centre should submit to EAL the confirmed achieved mark relating to the short answer question paper, for each learner.

6.3 Synoptic Practical Assessment

Learners must complete two synoptic assessments at the end of their learning programme. The purpose of the synoptic assessments is for learners to demonstrate understanding and practical application of learning across the whole vocational area. The assessments will last one whole day and will extend beyond usual school hours. The first one will begin with the synoptic external short answer question paper and cover unit ADMT02 in the practical. See [6.2 Synoptic External Short Answer Questions](#). The second synoptic assessment will be purely practical and cover unit ADMT03.

The synoptic assessment is set by EAL and carried out in an independent testing centre and subject to External Quality Assurance.

Submitting marks for the synoptic assessment

Subject to internal moderation being completed satisfactorily, and in accordance with EAL published procedures, the Centre should submit to EAL the confirmed achieved mark relating to the synoptic practical assessment, for each learner.

Re-taking the Synoptic Practical Assessment

If, following internal standardisation and internal quality assurance any learners fail to reach the standard required to pass the synoptic assessment they will be permitted **ONE** re-take.

7.0 External Quality Assurance of Assessment

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

- **Recognition:** When a Centre decides to offer the qualification, EAL EQA ensures that the Centre is suitably equipped and prepared for delivery and assessment.

In granting recognition, EAL 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, moderation and standardisation (including scope for involving employers).
- Has an independent test centre that can meet the requirements of this qualification

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

- **Sampling of synoptic practical assessment:** EAL External Quality Assurer will make announced and unannounced EQA sampling visits to independent testing centre. Unrestricted access is a mandatory requirement of the approval of this qualification

8.0 Grading

For all units a Pass, Merit and Distinction grading will apply. To gain a pass in each unit a minimum of 60% is required, to achieve a Merit a minimum of 70% is required and to achieve a Distinction a minimum of 80% is required

Unit title	Assessment type and contribution to unit grade	Contribution to overall grade
Understanding the wider importance of manufacturing	100% SSAQP	1/4
Contribute to the safety and efficiency of a manufacturing process	40% SSAQP	1/4
	60% SPA	
Understand the application of production improvement techniques	10% SSAQP	1/4
	90% SPA	
Understanding Creativity and design for manufacture	20% SSAQP	1/4*
	80% CDCM	
Understanding Manufacturing for the Environment	5% SSAQP	1/4*
	95% AOCM	
Understanding Adding value to manufacturing through innovation	90% AOSCM	1/4*
	10% SPA	

Key:

SSAP	Synoptic short answer question paper
SPA	Synoptic practical assessment
CDCM	Centre devised, centre marked assessment
AOCM	Awarding organisation set, centre marked assessment
*	Only one optional unit is counted

Appendix 1: Learner Registration & 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:

Qualification Title	Code
EAL Level 3 Advanced Diploma in Manufacturing Technologies	601/4565/1

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