



Level 2 Diploma in **ENGINEERING and TECHNOLOGY**

Qualification Specification

Overview

This qualification has been developed to provide learners with an intermediate knowledge and understanding of the practices and processes of engineering technology. It covers knowledge, understanding and skills that are relevant to a wide variety of careers and study routes and take a hands-on approach to basic engineering training

Typical Job

Mechanical Fitter, Maintenance Engineer, Manufacturing Engineer, Electrical Engineer, Electronics Engineer, Sheet Metal Worker, CNC Operator, Welder.

Qualification code:	500/7595/0
Level:	2
Credit value:	39
Total qualification time:	390
Guided learning hours:	330
Minimum learning age:	14

Purpose of qualification

The EAL Level 2 Diploma in Engineering and Technology is a Vocational Related Qualification (VRQ). It will give learners knowledge and understanding of a broad range of engineering competencies. The qualifications cover the intermediate knowledge, understanding and skills that are required by someone working in the engineering industry. It takes a hands-on approach to intermediate engineering training by providing learners with:

- Knowledge and understanding of a range of engineering competencies
- Information that will help them make more informed decisions about their career options
- Personal skills to help them work effectively and achieve their potential.

What does this qualification cover?

This qualification has three core mandatory units, which provides learners with knowledge of the engineering environment, techniques and principles within the engineering sector, and thirty one optional units, from which a learner will select three from the structure listed on pages 3-4.

Who is this qualification for?

This qualification is predominantly for learners completing an intermediate level Apprenticeship or in full time education who are interested in engineering and would like to gain an intermediate level of knowledge and understanding about the engineering sector. The qualification may also be suitable for learners who are interested in engineering technology and/or are considering a career change. The qualification has been specifically designed to offer progression into a higher level of study or an Apprenticeship.

It is suitable for learners aged:

- 14-16
- 16-18
- 19+

Who supports this qualification?

This qualification is:

- Regulated at Level 2
- Endorsed by a number of post-16 providers as facilitating completion of the knowledge requirements for a range of Engineering Apprenticeships or a range of post-16 learning programmes at level 2 and 3.

What could this qualification lead to?

Typical job roles include:

Mechanical Fitter, Maintenance Engineer, Manufacturing Engineer, Electrical Engineer, Electronics Engineer, Sheet Metal Worker, CNC operator, Welder.

This qualification relates to:

- EAL Level 1 NVQ Certificate in Performing Engineering Operations
- EAL Level 2 NVQ Diploma in Performing Engineering Operations
- EAL Level 2 Certificates and Diplomas in Engineering Technology subjects, such as mechanical, electrical, welding, maintenance, and plumbing
- Further EAL level 2 engineering and manufacturing competence qualifications

Entry requirements

Learners must be at least 14 years old. There are no formal entry requirements for this qualification. However, learners must 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.

How is the qualification achieved?

This qualification will be achieved when the learner has successfully completed:

- Three core mandatory units, comprising an on-screen multiple-choice examination
- Three of the optional units, comprising Centre marked practical/theory assessments.

What will be assessed?

This qualification is made up of units to which appropriate assessment methods have been applied. The units contain the learning outcomes and the assessment criteria that the learner is to be assessed against.

All learning outcomes within the qualification will be assessed. In order to meet this requirement, it is advised that centres should maintain an assessment and feedback record for each learner. This will detail the evidence evaluated against the learning outcome and the feedback given to the learner. All learner evidence must be available to the EAL External Quality Assurer.

Grading criteria

This qualification is graded pass or refer.

Learners must achieve a Pass in ALL components for the qualification to be awarded. If learners are unsuccessful in one or more of the assessment components then the overall result for the qualification will be 'referred' and a certificate will not be awarded.

Providing learners are successful in ALL assessment components, the learner will achieve a pass in their qualification.

How will it be assessed?

Assessment methods within this qualification include an on-screen multiple choice examination for the mandatory units and a Centre marked practical and theory assessments for the optional units. Assessment methods have been designed to assess the knowledge, understanding and skills of learners for all units.

The on-screen multiple choice examination is set by EAL and marked by EAL. The internal assessment is set by EAL and marked by members of the delivery team at the Centre.

Where the assessment takes the form of written/short answer or multiple choice question papers, these must be treated as controlled assessments.

All assessment decisions are then subject to internal and external quality assurance.

Structure

This qualification will be obtained by the learner once they have successfully completed the **three mandatory units** and **three optional units** from the units listed below.

The qualification has 39 credits and 330 Guided Learning Hours (GLH) and 390 hours Total Qualification Time (TQT).

Mandatory unit:

Unit	Unit title	Credit	GLH	Ofqual Code
QETI/001	Engineering environment awareness	6	60	D/600/1847
QETI/002	Engineering techniques	6	60	H/600/1848
QETI/003	Engineering principles	6	60	K/600/1852

Optional units - select three of the following units:

Unit	Unit title	Credit	GLH	Ofqual Code
QETI/004	Electrical and electronic principles	7	50	A/600/1855
QETI/005	Electrical and electronic testing methods	7	50	J/600/1857
QETI/006	Electrical and electronic systems and devices	7	50	R/600/1859
QETI/007	Fabrication and welding principles	7	50	D/600/1864
QETI/008	Manual welding techniques	7	50	H/600/1865
QETI/009	Producing components from metal plate	7	50	K/600/1866
QETI/010	Producing components from sheet metal	7	50	M/600/1867
QETI/010A	Sheet metalwork technology	7	50	K/506/7419
QETI/011	Non-fusion thermal joining methods	7	50	T/600/1868
QETI/012	Thermal cutting techniques	7	50	A/600/1869
QETI/013	Engineering maintenance safety practices	7	50	M/600/1870

Optional units *continued*

Unit	Unit title	Credit	GLH	Ofqual Code
QETI/014	Engineering maintenance techniques	7	50	F/600/1873
QETI/015	Engineering maintenance planning	7	50	J/600/1874
QETI/016	Engineering materials processes	7	50	L/600/1875
QETI/017	Fitting and assembly techniques	7	50	R/600/1876
QETI/018	Turning and milling techniques and technology	7	50	Y/600/1877
QETI/019	Turning techniques	7	50	H/600/1879
QETI/020	Milling techniques	7	50	L/600/1889
QETI/021	Grinding techniques	7	50	L/600/1892
QETI/022	Personal computer (PC) maintenance methods	7	50	L/600/1861
QETI/023	Electrical installation methods, wiring and circuit protection	7	50	R/600/1862
QETI/024	Basic electrical circuit inspection, testing and fault diagnosis	7	50	Y/600/1863
QETI/025	Building services pipework fixing, bending and jointing methods	7	50	D/600/2299
QETI/026	Building services pipework systems	7	50	D/600/2304
QETI/027	Installation and servicing of refrigeration equipment	7	50	L/600/2315
QETI/028	Installation and servicing of air-conditioning equipment	7	50	D/600/2318
QETI/029	Installation of security systems	7	50	T/600/2339
QETI/030	Security installation design	7	50	K/600/2340
QETI/031	Motor vehicle maintenance safety practices	7	50	F/600/2358
QETI/032	Motor vehicle maintenance techniques	7	50	H/600/2370
QETI/033	Motor vehicle maintenance planning	7	50	K/600/2371
QETI/034	Understanding Computer Aided Drawing (CAD)	7	50	A/600/2374