



Level 3 Diploma in Advanced Manufacturing and Engineering - Mechatronic Maintenance Technician (Development Competence)

Qualification Specification

Overview

This qualification has been developed to provide learners with a skills and knowledge they will need to carry out the role of a Mechatronic Maintenance Technician.

It covers the relevant H&S requirements to ensure that all aspects of the Mechatronic Maintenance role can be carried out safely, it also includes fault finding, maintenance and planning as a basis for the qualification.

Typical Job

Mechatronic Maintenance Technician

Qualification code:	603/3845/3
Level:	3
Guided learning hours:	2969
Total Qualification Time::	3179
Minimum learning age:	16



Purpose of qualification

What is this qualification?

This qualification is a Competency Qualification which sits on the National Qualification Framework (NQF) and has been approved by the Advanced Manufacturing and Engineering Sector employer groups which is made up a range of employers, providers and professional institutions. The qualification focuses on the Skills, knowledge and behaviours required to achieve the development phase requirements of relevant apprenticeship standards. This arrangement ensures that when the learner completes the qualification they will have gained knowledge and practical experience of some of the situations that they could face within the occupational sector in which it is being delivered.

It covers specific Skills knowledge and behaviours of a range of engineering disciplines which have been developed in consultation with engineering industry specialists and training providers to ensure that it meets the needs of industry employers and learners.

What does this qualification cover?

The content and structure of this qualification has been developed to provide the specific level of skills, knowledge and behaviours required to be achieved and assessed to demonstrate full occupational competence in the Foundation Phase of the apprenticeship. The qualification Units are listed in Section 3.

The qualification has 2969 Guided Learning (hrs) and has a Total Qualification Time (TQT) of 3179 hours which is the notional time required by the learner to complete the qualification.

Who is this qualification for?

- Learners who are working towards a relevant apprenticeship standard
- Learners who are looking to advance to the development phase of a relevant apprenticeship standard

Who supports the qualification?

This qualification is:

- Regulated by Ofqual at level 3
- Supported by Engenuity
- Supported by Advanced manufacturing and Engineering Sector.

What could this qualification lead to?

Typical job roles include:

Mechatronic Maintenance Technician

This qualification will provide progression onto other suitable and appropriate level 3 and level 4 Engineering qualifications.

Entry requirements

Learners must be at least 16 years old. There are no formal entry requirements for this qualification; however centres should ensure that the learners have the potential to achieve this 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.

When used as part of an apprenticeship standard apprentices must have achieved the requirements of the foundation phase of the apprenticeship in line with the apprenticeship standard they are working towards.

How is the qualification achieved?

The qualification is achieved when all the necessary units have been completed. The centre will then be able to apply for the learner's certificate of achievement. The learners will also receive a certificate of unit credit, listing all the units they have achieved.

What will be assessed?

This qualification is gained when all the performance, skills knowledge and behaviours have been demonstrated across the assessment criteria for each unit selected.

The assessment criteria within the Units of Competence have been specifically developed to cover a wide range of activities relevant to the role carried out by a Mechatronic Maintenance Technician. The evidence produced for the units will, therefore, depend on the skills and knowledge required by employer and specified in the Apprentices Training Plan.

Grading Criteria

This qualification is not graded, learners can achieve a Pass or be Referred.

To achieve a pass learners must be able to demonstrated their Performance, Skills, Knowledge and Behaviours across all units Mandatory and Optinal units.

How will it be assessed?

Performance evidence must be a product of the Apprentices work, such as items that have been produced or worked on, plans, charts, reports, standard operating procedures, documents produced as part of a work activity, records or photographs of the completed activity
Together with evidence of the way the Apprentice carried out the activities, such as witness testimonies, assessor observations or authenticated Apprentice reports of the activity undertaken.

Knowledge and understanding are key components of competent performance, but it is unlikely that performance evidence alone will provide enough evidence in this area. Where the Apprentices knowledge and understanding is not apparent from performance evidence, it must be assessed by other means and be supported by suitable evidence.

Structure

This qualification can be obtained by completing **Six** mandatory units within **Group A**, **One** unit from **Group B** plus a minimum of **three** optional units from **Group C**.

Note: When selecting units it is important to read the relevant standard to ensure the criteria of the standard has been met.

Group A: Mandatory Units: All **six** mandatory units must be completed:

EAL Code	Assessment Route Title	GL(hrs)	Ofqual Code
AUEC3-001	Complying with statutory regulations and organisational safety requirements	13	Y/615/3996
AUEC3-002	Using and Interpreting Engineering Data and Documentation	13	D/615/3997
AUEC3-003	Working Efficiently and Effectively in Advanced Manufacturing and Engineering	42	K615/3999
AUEC3-004	Handing Over and Confirming Completion of Maintenance Activities	100	L/508/4827
AUEC3-005	Carrying Out Fault Diagnosis on Engineered Systems	530	R/508/4828
AUEC3-006	Carrying Out Preventative Planned Maintenance on Engineered Systems	380	Y/508/4829

Group B Optional Units: **One** optional units must be completed from the following:

AUEC3-007	Maintaining Mechanical Equipment	700	L/508/4830
AUEC3-008	Maintaining Electrical Equipment	700	R/508/4831
AUEC3-009	Maintaining Fluid Power Equipment	700	D/508/4833
AUEC3-010	Maintaining Process Control Systems	700	H/508/4834
AUEC3-328	Carrying Out Scheduled Servicing on Medical Equipment	700	J/617/3502
AUEC3-329	Maintaining Medical Device and Surgical Instrument Decontamination Equipment	700	L/617/3503
AUEC3-330	Maintaining Medical Gas Pipeline Systems and Equipment	700	R/617/3504

Group C: Optional Units: A minimum of **three** optional units must be completed from the following:

Whichever unit that is selected from **group B** cannot be selected from **group C**

AUEC3-007	Maintaining Mechanical Equipment	700	L/508/4830
AUEC3-008	Maintaining Electrical Equipment	700	R/508/4831
AUEC3-009	Maintaining Fluid Power Equipment	700	D/508/4833
AUEC3-010	Maintaining Process Control Systems	700	H/508/4834
AUEC3-011	Carrying Out Fault Diagnosis on Electrical Equipment and Circuits	500	K/508/4835
AUEC3-012	Modifying or Rewiring Electrical Circuits	350	M/508/4836
AUEC3-013	Testing Electrical Equipment and Circuits	500	T/508/4837
AUEC3-014	Carrying Out Condition Monitoring of Plant and Equipment	371	R/615/4001
AUEC3-015	Carrying Out Fault Diagnosis on Electronic Equipment and Circuits	500	F/508/4839
AUEC3-016	Testing Electronic Equipment and Circuits	500	T/508/4840
AUEC3-017	Carrying Out Fault Diagnosis on Fluid Power Equipment and Circuits	500	A/508/4841
AUEC3-018	Assisting in the Installation of Equipment to Produce an Engineered System	480	F/508/4842
AUEC3-019	Repairing Electronic Equipment	620	J/508/4843
AUEC3-020	Producing Off-line Programs for Programmable Logic Controller Equipment	819	D/615/4003
AUEC3-021	Producing Operating Programs for Industrial Robots	819	H/615/4004
AUEC3-022	Carrying Out Fault Diagnosis on Mechanical Equipment	500	Y/508/4846
AUEC3/147	Installing Mechanical Equipment	1162	M/615/4104
AUEC3/148	Installing Electrical/Electronic Equipment	1162	H/615/4102
AUEC3/149	Installing Equipment to Produce an Engineered System	1211	D/615/4101
AUEC3/150	Commissioning Mechanical Equipment and Systems	1162	Y/615/4100
AUEC3/151	Commissioning Electrical/Electronic Equipment and Systems	1162	J/615/4092
AUEC3/152	Commissioning Engineered Systems	1221	A/615/4090

Group C: Optional Units: Continued

AUEC3-328	Carrying Out Scheduled Servicing on Medical Equipment	700	J/617/3502
AUEC3-329	Maintaining Medical Device and Surgical Instrument Decontamination Equipment	700	L/617/3503
AUEC3-330	Maintaining Medical Gas Pipeline Systems and Equipment	700	R/617/3504
AUEC3-331	Restoring Mechanical Components to Usable Condition by Repair	470	Y/617/3505
AUEC3-332	Producing Replacement Components for Maintenance Activities	470	D/617/3506
AUEC3-333	Carrying Out Fault Diagnosis on Medical Equipment	500	H/617/3507
AUEC3-334	Testing Medical Equipment	500	K/617/3508
AUEC3-335	Servicing Cardiovascular Equipment	700	M/617/3509
AUEC3-336	Servicing Physiological Monitoring and Infusion Equipment	700	H/617/3510
AUEC3-337	Servicing Anaesthetic and Ventilation Equipment	700	K/617/3511
AUEC3-338	Servicing Operating Theatre and Surgical Equipment	700	M/617/3512
AUEC3-339	Servicing Medical Imaging Equipment	500	T/617/3513
AUEC3-340	Servicing Laboratory Equipment	700	A/617/3514
AUEC3-341	Servicing Dental Equipment	700	F/617/3515
AUEC3-342	Servicing Medical Therapeutic Equipment	700	J/617/3516
AUEC3-343	Servicing Mechanical and Electromechanical Assistive Technology Equipment	700	L/617/3520
AUEC3-344	Servicing Radiotherapy Equipment	700	Y/617/3522
AUEC3-345	Servicing on Clinical Computing Equipment	700	D/617/3523