



Level 3 NVO Diploma in Engineering Technical Support

ENGINEERING

Qualification Specification

Overview

This qualification has been developed to enable learners to demonstrate competence in their engineering technical support occupation.

Typical Job

The qualification is applicable to a wide variety of engineering technical support occupations within the sector, dependent on the pathway chosen.

Qualification code:	600/9793/0
Level:	3
Total qualification time:	1230 Hours
Guided learning hours:	407
Credits:	123
Minimum age	16

Purpose of the qualification

This qualification enables learners to demonstrate their occupational competence in an engineering technical support activity relevant to their job role. It is principally for engineering apprentices working within the sector. The qualification requires occupational evidence from the workplace.

What could this qualification lead to?

A career in the engineering sector, further or higher study such as project management, supervision, and business improvement techniques.

Entry Requirements

Learners must have the potential to achieve the assessment criteria set out in the units

How is the qualification achieved?

The learner must present evidence (portfolio) which clearly shows they have met the assessment criteria and learning outcomes. The learner must achieve the mandatory and optional units relevant to their pathway (occupational role).

What will be assessed?

All evidence submitted by the learner against the assessment criteria.

How will it be assessed?

Evidence for this qualification will be assessed in accordance with the SEMTA engineering assessment strategy, which has been created from engagement with stakeholders (employers etc.) in the engineering sector.

The qualification is not graded and only a pass can be achieved – which indicates the learner's occupational competence.

Structure

This qualification can be obtained by following either one of the following pathways. The learner is required to complete the mandatory assessment routes, and may also be able to choose from a selection of optional assessment routes.

Pathway ETA: Engineering Drawing

Mandatory assessment routes: All three assessment routes must be completed:

EAL code	Assessment route title	Level	Credit value	Guided learning hours	Ofqual code
QETS3/001N	Complying with Statutory Regulations and Organisational Safety Requirements	2	5	35	A/601/5013
QETS3/002N	Using and Interpreting Engineering Data and Documentation	2	5	25	Y/601/5102
QETS3/003N	Working Efficiently and Effectively in Engineering	3	5	25	K/601/5055

Optional assessment routes: One of the following assessment routes must be taken:

QETS3/004N	Producing Mechanical Engineering Drawings using Computer Aided Techniques	3	150	294	H/600/5415
QETS3/005N	Producing Engineering Drawings/Models using 3D Computer Aided Techniques	3	150	294	H/600/5429
QETS3/006N	Producing Electrical Engineering Drawings using Computer Aided Techniques	3	150	294	H/600/5463
QETS3/007N	Producing Electronic Engineering Drawings using Computer Aided Techniques	3	150	294	F/600/5471
QETS3/008N	Producing Fabrication/Structural Engineering Drawings using Computer Aided Techniques	3	150	294	M/600/5482
QETS3/009N	Producing Fluid Power Engineering Drawings using Computer Aided Techniques	3	150	294	Y/600/5489
QETS3/010N	Producing Engineering Systems/Services Drawings using Computer Aided Techniques	3	150	294	M/600/5496

Pathway ETB: Quality Control

Mandatory assessment routes: All three assessment routes must be completed:

EAL code	Assessment route title	Level	Credit value	Guided learning hours	Ofqual code
QETS3/001N	Complying with Statutory Regulations and Organisational Safety Requirements	2	5	35	A/601/5013
QETS3/002N	Using and Interpreting Engineering Data and Documentation	2	5	25	Y/601/5102
QETS3/003N	Working Efficiently and Effectively in Engineering	3	5	25	K/601/5055

Optional assessment routes: One of the following assessment routes must be taken:

QETS3/011N	Inspecting Mechanical Products	3	142	287	Y/600/5511
QETS3/012N	Inspecting Components using Co-ordinate Measuring Machines (CMM)	3	140	287	F/600/5535
QETS3/013N	Inspecting Fabricated Components and Structures	3	142	287	F/600/5549
QETS3/014N	Carrying Out Visual Inspection of Welded Fabrications	3	142	287	K/600/5559
QETS3/015N	Inspecting and Testing Electrical Products	3	142	287	J/600/5570
QETS3/016N	Inspecting and Testing Electronic Products	3	142	287	J/600/5603
QETS3/017N	Checking and Calibrating Mechanical Inspection Equipment	3	139	287	K/600/5612
QETS3/018N	Checking and Calibrating Electrical and Electronic Test Equipment	3	139	287	L/600/5618
QETS3/019N	Checking and Calibrating Process Control Instrumentation	3	139	287	H/600/5625

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Pathway ETC: Non-Destructive Testing

Mandatory assessment routes: All three assessment routes must be completed:

EAL code	Assessment route title	Level	Credit value	Guided learning hours	Ofqual code
QETS3/001N	Complying with Statutory Regulations and Organisational Safety Requirements	2	5	35	A/601/5013
QETS3/002N	Using and Interpreting Engineering Data and Documentation	2	5	25	Y/601/5102
QETS3/003N	Working Efficiently and Effectively in Engineering	3	5	25	K/601/5055

Optional assessment routes:

Either: One of the following pairs of assessment routes must be taken:

QETS3/024N	Preparing Ultrasonic Flaw Detection Equipment for Testing Activities	3	36	91	L/600/5666
QETS3/025N	Inspecting Engineering Products using Ultrasonic Testing Techniques	3	82	189	H/600/5673
QETS3/026N	Preparing Work Areas for Radiographic Testing Activities	3	36	91	T/600/5676
QETS3/027N	Carrying Out Radiographic Testing Activities	3	82	189	Y/600/5685

Or: Two of the following assessment routes must be taken:

QETS3/020N	Determining Technical Requirements for Non-Destructive Testing	3	65	168	A/600/5632
QETS3/021N	Specifying Non-Destructive Testing Instructions for Inspection Activities	3	70	168	T/600/5645
QETS3/022N	Inspecting Engineering Products by Penetrant Flaw Detection Techniques	3	52	119	L/600/5652
QETS3/023N	Inspecting Engineering Products by Magnetic Particle Testing	3	82	189	K/600/5660



QETS3/028N

Analysing and Interpreting the Results of
Radiographic Tests

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K/600/5688

Pathway ETD: Computer Control Programming

Mandatory assessment routes: All three assessment routes must be completed:

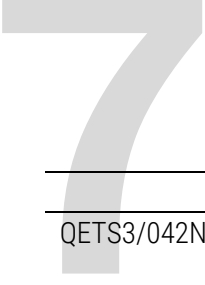
EAL code	Assessment route title	Level	Credit value	Guided learning hours	Ofqual code
QETS3/001N	Complying with Statutory Regulations and Organisational Safety Requirements	2	5	35	A/601/5013
QETS3/002N	Using and Interpreting Engineering Data and Documentation	2	5	25	Y/601/5102
QETS3/003N	Working Efficiently and Effectively in Engineering	3	5	25	K/601/5055

Optional assessment routes: One of the following assessment routes must be taken:

QETS3/029N	Providing Operational Support for Computer Control Programs	3	54	106	M/600/5692
QETS3/030N	Loading and Proving Computer Control Programs	3	24	91	A/600/5694

Plus one of the following assessment routes must be taken:

QETS3/031N	Producing Operating Programs for Co-ordinate Measuring Machines (CMM)	3	84	231	H/600/5706
QETS3/032N	Producing Off-line Programs for Programmable Logic Controller Equipment	3	84	231	K/600/5710
QETS3/033N	Producing Operating Programs for Industrial Robots	3	84	231	Y/600/5718
QETS3/034N	Producing Off-line Programs for NC/CNC Laser Profiling Machines	3	84	231	Y/600/5721
QETS3/035N	Producing Off-line Programs for NC/CNC Fabrication Machines	3	84	231	A/600/5727
QETS3/036N	Producing Off-line Programs for NC/CNC Turning Machines	3	84	231	A/600/5730
QETS3/037N	Producing Off-line Programs for NC/CNC Milling Machines	3	84	231	Y/600/5735
QETS3/038N	Producing Off-line Programs for NC/CNC Grinding Machines	3	84	231	H/600/5737
QETS3/039N	Producing Off-line Programs for NC/CNC Gear Cutting Machines	3	84	231	H/600/5740
QETS3/040N	Producing Off-line Programs for NC/CNC Electro-Discharge Machining	3	84	231	T/600/5743
QETS3/041N	Producing Off-line Programs for NC/CNC	3	84	231	L/600/5747



	Boring Machines				
QETS3/042N	Producing Off-line Programs for NC/CNC Machining Centres	3	84	231	L/600/5750

Pathway ETE: Integrated Business Operational Support

Mandatory assessment routes: All three assessment routes must be completed:

EAL code	Assessment route title	Level	Credit value	Guided learning hours	Ofqual code
QETS3/001N	Complying with Statutory Regulations and Organisational Safety Requirements	2	5	35	A/601/5013
QETS3/002N	Using and Interpreting Engineering Data and Documentation	2	5	25	Y/601/5102
QETS3/003N	Working Efficiently and Effectively in Engineering	3	5	25	K/601/5055

Optional assessment routes: The following assessment route must be taken:

QETS3/043N	Resolving Engineering or Manufacturing Support Problems	3	40	96	T/505/1790
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Plus three of the following assessment routes must be taken, which one must be from group A:

Group A assessment routes:

QETS3/044N	Planning Engineering Activities	3	40	106	T/600/5760
QETS3/045N	Implementing Engineering Activities	3	40	106	J/600/5763
QETS3/046N	Monitoring Engineering Activities	3	40	106	D/600/5767
QETS3/047N	Producing Technical Information for Engineering Activities	3	40	106	R/505/1795
QETS3/048N	Obtaining Resources for Engineering Activities	3	40	106	A/600/5775
QETS3/049N	Obtaining and Controlling Materials for Engineering Activities	3	40	106	R/600/5779
QETS3/050N	Providing Technical Sales and Marketing Support for Engineering Activities	3	40	106	Y/505/1796
QETS3/051N	Implementing Quality Control Systems and Procedures in an Engineering Environment	3	40	106	H/600/5785
QETS3/052N	Scheduling Engineering Activities	3	40	106	A/505/1791
QETS3/053N	Determining Engineering Requirements for the Supply of Products or Services	3	40	106	F/600/5793
QETS3/054N	Carrying out Condition Monitoring of Engineering Plant and Equipment	3	39	81	R/600/5796



QETS3/055N

Carrying out Fault Diagnosis on Engineering
Plant and Equipment

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D/600/5798

QETS3/073N	Supporting Logistics Operations in an Engineering Manufacturing Environment	3	40	106	L/505/1794
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Group B assessment routes:

QETS3/056N	Providing Technical Advice and Guidance on Engineering Activities	3	40	106	R/600/5801
QETS3/057N	Carrying out Project Management of Engineering Activities	3	40	106	F/505/1792
QETS3/058N	Developing and Maintaining Effective Customer Relationships	3	20	35	D/600/5803
QETS3/059N	Handing Over and Exchanging Responsibility for Control of Engineering Activities	3	20	35	H/600/5804
QETS3/060N	Carrying out Health and Safety Risk Assessments on Engineering Activities	3	40	106	K/600/5805
QETS3/061N	Producing Contractual Arrangements to Supply or Procure Goods or Services for Engineering Activities	3	40	106	J/505/1793
QETS3/074N	Using and Maintaining Business Procedures and Protocols in an Engineering	3	40	106	D/505/1797

Pathway ETF: Engineering Software Development

Mandatory assessment routes: All three assessment routes must be completed:

EAL code	Assessment route title	Level	Credit value	Guided learning hours	Ofqual code
QETS3/001N	Complying with Statutory Regulations and Organisational Safety Requirements	2	5	35	A/601/5013
QETS3/002N	Using and Interpreting Engineering Data and Documentation	2	5	25	Y/601/5102
QETS3/003N	Working Efficiently and Effectively in Engineering	3	5	25	K/601/5055

Optional assessment routes: All of the following assessment route must be taken:

QETS3/062N	Determining Engineering Software Requirements	3	40	71	D/601/2864
QETS3/063N	Producing Engineering Software Design	3	50	99	T/601/2871
QETS3/064N	Producing Engineering Software Implementation	3	40	71	F/601/2887
QETS3/065N	Testing Engineering Software	3	50	99	F/601/2890

Plus one of the following assessment routes must be taken:

QETS3/066N	Performing Engineering Software Analysis Techniques	3	50	99	J/601/2891
QETS3/067N	Measuring Engineering Software Quality	3	40	71	L/601/2892
QETS3/068N	Performing Engineering Software Configuration Management	3	50	99	Y/601/2894
QETS3/069N	Performing Engineering Software Acquisition	3	40	71	D/601/2895
QETS3/070N	Performing Engineering Software Safety Assessments	3	40	71	M/601/2898
QETS3/071N	Performing Low Level Programming for Engineering Software	3	50	99	A/601/2905
QETS3/072N	Performing Computer System Security Assessments for Engineering Software	3	40	71	F/601/2906

