Qualification Specification

Qualification title: EAL Level 3 NVQ Extended Diploma in Engineering Woodworking, Pattern and Model Making

Qualification code: 600/1769/7

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4.0 Qualification specific information

Rule of combination (qualification structure)

This qualification has 439 Guided Learning Hours (GLH), and 133 Credits.
It has a Total Qualification Time (TQT) of 1330 hours which is the notional time required by the learner to complete the qualification.

Structure of the EAL Level 3 NVQ Extended Diploma

The Extended Diploma is comprised of a Level 3 Engineering Qualification **extended** by inclusion of technically specific PEO Units as follows:-

Mandatory Units – A combination of Level 2 & 3

Group A – Level 2 PEO Units x 3 (Engineering Practices pathway)

OR

Group B – Level 2 PEO Units x 5 (Technical Support pathway)

And

Group C - Engineering Pathway – Level 3 optional Units

Delivery requirements
In the context of the Apprenticeship Framework, the technically specific level 2 PEO units **must** be delivered and assessed in a sheltered work environment **before** starting delivery and assessment of the level 3 components in the working environment.

PEO:
To support these basic engineering skills and techniques, the learner must be trained in, and continuously practice the relevant Health and Safety, engineering communication requirements along with all the other Mandatory Unit(s) listed within that qualification. The Learner cannot be signed off as being competent for these units in this period.

Level 3:
On completion of the PEO2 Units, the Learner moves on to the Units from the Level 3 qualification which can only be assessed within a workplace environment

EAL Level 3 NVQ Extended Diploma in Engineering Woodworking, Pattern and Model Making

This qualification will be achieved when the learner has successfully completed the common mandatory Assessment route followed by the required number of optional Assessment route.

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

EAL code	Assessment route title	Level	Credit value	Guided learning hours	Ofqual code
QEWP2/001	Complying with Statutory Regulations and Organisational Safety Requirements	2	5	35	A/601/5013
QEWP2/002	Using and Interpreting Engineering Data and Documentation	2	5	25	Y/601/5102
QEWP3/003	Working Efficiently and Effectively in Engineering	3	5	25	K/601/5055

Group A (Engineering practices)

Optional Units: Learners must complete **three** more units from the following

Notes:
Only one unit from **4, 32** and **61** may be included in the learner's choice of three units.
If unit **65** is selected units **5, 6, 8, 11, 12, 15, 16, 17** cannot be included in the learner's choice of three units.
If unit **66** is selected units **10, 22, 23, 25, 26, 27, 28, 29, 30, 34** cannot be included in the learner's choice of three units.
If unit **67** is selected units **33, 35, 36, 40** cannot be included in the learner's choice of three units.
If unit **68** is selected units **19, 21, 37, 38, 39, 40, 58, 59** cannot be included in the learner's choice of three units

QPEO2/004N	Producing Mechanical Engineering Drawings using a CAD System	2	11	61	F/504/6348
QPEO2/005N	Producing Components using Hand Fitting Techniques	2	14	64	J/504/6349
QPEO2/006N	Producing Mechanical Assemblies	2	15	68	F/504/6351
QPEO2/007N	Forming and Assembling Pipework Systems	2	14	64	L/504/6353
QPEO2/008N	Carrying Out Aircraft Detail Fitting Activities	2	14	64	R/504/6354
QPEO2/009N	Installing Aircraft Mechanical Fasteners	2	11	61	L/504/6367
QPEO2/010N	Producing Aircraft Detail Assemblies	2	14	65	L/504/6370
QPEO2/011N	Preparing and Using Lathes for Turning Operations	2	15	68	Y/504/6372
QPEO2/012N	Preparing and Using Milling Machines	2	15	68	K/504/6375
QPEO2/013N	Preparing and Using Grinding Machines	2	15	68	T/504/6377
QPEO2/014N	Preparing and Proving CNC Machine Tool Programs	2	14	64	F/504/6379
QPEO2/015N	Preparing and Using CNC Turning Machines	2	14	64	F/504/6382
QPEO2/016N	Preparing and Using CNC Milling Machines	2	14	64	L/504/6384
QPEO2/017N	Preparing and Using CNC Machining Centres	2	14	64	D/504/6387
QPEO2/018N	Preparing and Using Industrial Robots	2	14	64	D/504/6390
QPEO2/019N	Maintaining Mechanical Devices and Equipment	2	14	64	T/504/6394

QPEO2/020N	Assembling and Testing Fluid Power Systems	2	14	64	J/504/6397
QPEO2/021N	Maintaining Fluid Power Equipment	2	14	64	F/504/6401
QPEO2/022N	Producing Sheet Metal Components and Assemblies	2	14	64	J/504/6402
QPEO2/023N	Producing Platework Components and Assemblies	2	14	64	L/504/6403
QPEO2/024N	Cutting and Shaping Materials using Thermal Cutting Equipment	2	14	64	R/504/6404
QPEO2/025N	Preparing and Proving CNC Fabrication Machine Tool Programs	2	14	64	Y/504/6405
QPEO2/026N	Preparing and Using CNC Fabrication Machinery	2	14	64	D/504/6406
QPEO2/027N	Preparing and Using Manual Metal Arc Welding Equipment	2	15	68	K/504/6408
QPEO2/028N	Preparing and Using Manual TIG or Plasma-arc Welding Equipment	2	15	68	M/504/6409
QPEO2/029N	Preparing and Using Semi-automatic MIG, MAG and Flux cored arc Welding equipment	2	15	68	H/504/6410
QPEO2/030N	Preparing and Using Manual Oxy/fuel Gas Welding Equipment	2	14	64	Y/504/6419
QPEO2/031N	Preparing and Using Manual Flame Brazing and Braze Welding Equipment	2	11	61	L/504/6420
QPEO2/032N	Producing Electrical or Electronic Engineering Drawings using a CAD System	2	11	61	R/504/6421
QPEO2/033N	Wiring and Testing Electrical Equipment and Circuits	2	14	64	Y/504/6422
QPEO2/034N	Forming and Assembling Electrical Cable Enclosure and Support Systems	2	13	65	D/504/6423
QPEO2/035N	Assembling, Wiring and Testing Electrical Panels/Components Mounted in enclosures	2	14	64	H/504/6424
QPEO2/036N	Assembling and Testing Electronic Circuits	2	14	64	K/504/6425
QPEO2/037N	Maintaining Electrical Equipment/Systems	2	15	68	M/504/6426
QPEO2/038N	Maintaining Electronic Equipment/Systems	2	15	68	T/504/6427
QPEO2/039N	Maintaining and Testing Process Instrumentation and Control Devices	2	15	68	A/504/6428
QPEO2/040N	Wiring and Testing Programmable Controller Based Systems	2	15	68	F/504/6429
QPEO2/041N	Using Wood for Pattern, Modelmaking and Other Engineering Applications	2	15	68	T/504/6430

QPEO2/042N	Assembling Pattern, Model and Engineering Woodwork Components	2	14	64	A/504/6431
QPEO2/043N	Producing Composite Mouldings using Wet Lay-up Techniques	2	14	64	F/504/6432
QPEO2/044N	Producing Composite Mouldings using Pre-Preg Laminating Techniques	2	14	64	L/504/6434
QPEO2/045N	Producing Composite Mouldings using Resin Flow Infusion Techniques	2	14	64	R/504/6435
QPEO2/046N	Producing Composite Assemblies	2	14	64	Y/504/6436
QPEO2/047N	Producing Components by Rapid Prototyping Techniques	2	11	61	D/504/6437
QPEO2/048N	Producing and Preparing Sand Moulds and Cores for Casting	2	14	64	H/504/6438
QPEO2/049N	Producing and Preparing Molten Materials for Casting	2	14	64	K/504/6439
QPEO2/050N	Producing Cast Components by Manual Means	2	13	65	D/504/6440
QPEO2/051N	Fettling, Finishing and Checking Cast Components	2	11	61	H/504/6441
QPEO2/052N	Finishing Surfaces by Applying Coatings or Coverings	2	9	41	M/504/6443
QPEO2/053N	Finishing Surfaces by Applying Treatments	2	9	41	T/504/6444
QPEO2/054N	Carrying Out Heat Treatment of Engineering Materials	2	9	41	A/504/6445
QPEO2/055N	Carrying Out Hand Forging of Engineering Materials	2	9	41	F/504/6446
QPEO2/056N	Stripping and Rebuilding Motorsport Vehicles (Pre-Competition)	2	14	64	J/504/6447
QPEO2/057N	Inspecting a Motorsport Vehicle During Competition	2	14	64	L/504/6448
QPEO2/058N	Diagnosing and Rectifying Faults on Motorsport Vehicle Systems (During a Competition)	2	15	68	R/504/6449
QPEO2/059N	Carrying Out Maintenance Activities on Motor Vehicle Electrical Equipment	2	15	68	J/504/6450
QPEO2/060N	Stripping and Rebuilding Motorsport Engines (Pre – Competition)	2	14	64	L/504/6451
QPEO2/061N	Producing CAD Models (Drawings) using a CAD System	2	11	61	R/504/6452
QPEO2/065N	General Machining, Fitting and Assembly Applications	2	12	55	K/504/6456
QPEO2/066N	General Fabrication and Welding Applications	2	12	55	M/504/6457
QPEO2/067N	General Electrical and Electronic Engineering Applications	2	12	55	T/504/6458

QPEO2/068N	General Maintenance Engineering Applications	2	12	55	A/504/6459
QPEO2/069N	Joining Public Service Vehicle Components by Mechanical Processes	2	11	61	L/503/4056
QPEO2/070N	Assembling Structural Sub Assemblies to Produce a Public Service Vehicle	2	14	64	R/503/4057
QPEO2/071N	Fitting Sub Assemblies and Components to Public Service Vehicles	2	14	64	Y/503/4058
QPEO2/072N	Preparing and Manoeuvring Armoured Fighting Vehicles AFVs for Maintenance and Transportation	2	14	64	R/503/7198
QPEO2/073N	Producing Composite Mouldings using Resin Film Infusion Techniques	2	14	64	J/504/3404

Or

Group B (Technical Support):

Learners must complete one of the following PEO Level 2 assessment routes

QPEO2/004N	Producing Mechanical Engineering Drawings using a CAD System	2	11	61	F/504/6348
QPEO2/032N	Producing Electrical or Electronic Engineering Drawings using a CAD System	2	11	61	R/504/6421
QPEO2/061N	Producing CAD Models (Drawings) using a CAD System	2	11	61	R/504/6452

Plus two from the following PEO Level 2 assessment routes:

QPEO2/062N	Producing Engineering Project Plans	2	8	37	Y/504/6453
QPEO2/063N	Using Computer Software Packages to Assist with Engineering Activities	2	8	37	D/504/6454
QPEO2/064N	Conducting Business Improvement Activities	2	8	41	H/504/6455

Plus two more from the following PEO Level 2 assessment routes:

QPEO2/065N	General Machining, Fitting and Assembly Applications	2	12	55	K/504/6456
QPEO2/066N	General Fabrication and Welding Applications	2	12	55	M/504/6457
QPEO2/067N	General Electrical and Electronic Engineering Applications	2	12	55	T/504/6458
QPEO2/068N	General Maintenance Engineering Applications	2	12	55	A/504/6459

In addition to the PEO Level 2 unit requirement in Group A or B, learners must complete the unit requirements for one of the following Level 3 Engineering Woodworking, Pattern and Model Making Pathways

Group C

Pathway EWA: Engineering Woodworking

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

QEWP3/004	Marking Out Wood and Composite Materials	3	21	63	D/502/9315
QEWP3/005	Producing Components using Woodworking Machines	3	55	98	K/502/9317
QEWP3/006	Producing and Finishing Components using Woodworking Hand Tools	3	70	126	T/502/9319

Plus two assessment routes from the following:

QEWP3/007	Carrying Out Wood Turning Operations	3	60	133	K/502/9320
QEWP3/008	Assembling Engineering Woodwork	3	35	77	M/502/9321
QEWP3/009	Applying Surface Finishes to Woodwork Components and Structures	3	30	49	T/502/9322
QEWP3/010	Installing Woodwork Structures, Furniture and Fittings	3	40	91	A/502/9323

Pathway EWB: Pattern/Model Making

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

QEWP3/011	Marking Out Pattern, Corebox or Model Components	3	21	56	F/502/9324
QEWP3/012	Producing Pattern, Corebox or Model Components using Woodworking Machines	3	60	91	J/502/9325
QEWP3/013	Producing Pattern, Corebox or Model Components using Metalworking Machines	3	60	119	L/502/9325
QEWP3/014	Producing Pattern, Corebox, or Model Components using Woodworking Hand Tools	3	70	119	A/502/9340
QEWP3/015	Producing Pattern, Corebox or Model Components using Hand Fitting Techniques	3	70	154	R/602/9327
QEWP3/016	Producing Pattern, Corebox or Model Components by FRP Moulding	3	60	119	Y/502/9328
QEWP3/017	Assembling Wood/Composite Pattern, Corebox or Model Components	3	35	84	D/502/9329
QEWP3/018	Assembling Metal Pattern, Corebox or Model Components	3	35	84	R/502/9330
QEWP3/019	Producing Pattern, Corebox or Model Components using Cast Resin Techniques	3	60	119	Y/502/9331
QEWP3/020	Proving Patterns, Coreboxes or Models	3	40	91	D/502/9332
QEWP3/023	Setting CNC Machine Tools for Operation	3	70	126	H/502/9333
QEWP3/024	Programming CNC Machines to Produce Pattern or Model Components	3	84	231	K/502/9334
QEWP3/025	Producing Pattern, Corebox or Model Components using NC/CNC Machines	3	63	112	M/502/9335
QEWP3/027	Producing Components by Rapid Prototyping Techniques	3	35	84	T/502/9336
QEWP3/028	Modifying and Repairing Pattern, Corebox or Model Equipment	3	35	91	A/502/9337
QEWP3/029	Producing Pattern, Corebox or Model Components using Flexible Composite Materials	3	40	91	F/502/9338