

# Pathway Apprenticeships

Phase 1a

PA Framework Information

Appendix 1

## Version History

Version	Revision(s)	Approved By	Date
1	First Publication for PCS		
2	Update to Business Skills framework information		29/10/2020
3	Qualification Code for Business Skills corrected		14/01/2021
4	All framework specifications updated		26/01/2021
5	Engineering framework amended (cosmetic changes only)  Changes to both IT frameworks - Work-based challenge unit is mandatory. Personal Effectiveness and the equivalent customised unit are not part of the PA framework.		08/02/2021
6	PEO Group Award Code changed		17/02/2021
7	Unit code and credit point changes to Social Services Children and Young People table		02/03/2021
8	Group Award Code Engineering changed		11/03/2021

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## 1. Qualification

Pathway Apprenticeships (PA) are currently available at SCQF Level 5 and SCQF Level 6. The qualification structure is based on the Foundation Apprenticeship, with the exception of the Engineering pathway. The Foundation Apprenticeships utilised within the Pathway apprenticeship programmes incorporate recent adaptations that have been made to enhance flexibility around work placements to support providers to deliver them – either physically or through remote working. Pathway Apprenticeships therefore also incorporate a Work-based Challenge unit. This unit adds to the existing industry engagement elements of the qualification and supports the theoretical aspect of work-based learning and development of meta-skills.

The adaptations provide more flexibility in delivery so that participants can achieve the same high quality work-based learning qualification at SCQF Level 5 and Level 6 and enable progression routes.

The specifications are set out below and must be delivered in conjunction with the Work Based Challenge unit.

### a. Pathway Apprenticeship – Business Skills (Including Digital)

GR50 46 Foundation Apprenticeship in Business Skills			
Group Award Title	Unit Title	SCQF Level	SCQF Credits
<b>GR3P 46 National Progression Award (NPA) in Business Skills at SCQF level 6</b>	J229 76 Understanding Business	6	6
	J22A76 Management of People and Finance	6	6
	F1FE 12 PC Passport: Working with IT Software - Word Processing and Presenting Information AND F1FJ 12 PC Passport: Working with IT Software - Spreadsheet and Database	6	6
	<b>OR</b>		
	HA6L 46 Web Apps: Spreadsheets AND HA6M 46 Web Apps: Word Processing	6	6
	HE9E 46 Contemporary Business Issues	6	6

<b>Work Based Challenge Unit</b>	J4YL 04 Work Based Challenge	6	6
<b>Work Based Learning</b>	FD9Y 04 Plan how to manage and improve own performance in a business environment <b>OR</b> Customised Unit: J4E5 04 Plan how to manage and improve own performance in a business environment	6	4
	FE02 04 Communicate in a business environment <b>OR</b> Customised Unit: J4E8 04 Communicate in a business environment	6	3
	FE04 04 Support other people to work in a business environment <b>OR</b> Customised Unit: J4E9 04 Support other people to work in a business environment	6	4
	FE0X 04 Design and produce documents in a business environment <b>OR</b> Customised Unit: J4E7 04 Design and produce documents in a business environment	6	4
<b>Foundation Apprenticeship Certification Unit</b>	HE6E 04 Foundation Apprenticeship Certification unit	-	0
<b>TOTAL SCQF CREDIT POINTS</b>			<b>51</b>

### b. Pathway Apprenticeship – Information Technology Digital (Hardware)

<b>GR53 46 Foundation Apprenticeship in Information Technology: Hardware/ System Support</b>			
<b>Group Award Title</b>	<b>Unit Title</b>	<b>SCQF level</b>	<b>SCQF Credit points</b>
<b>GG0F 46 NPA in Professional Computer Fundamentals</b>	H2N5 12 Security Fundamentals	6	6
	H2N6 12 Network Fundamentals	6	6
	H2N7 12 Server Administration Fundamentals	6	6
<b>Work Based Learning</b>	J4YL 04 Work Based Challenge	6	6
	H3C5 04 Health and Safety in IT & Telecom <b>OR</b> Customised unit - J4ES 04 Health and Safety in IT & Telecom	4	1

	H39S 04 IT & Telecom System Operation 2 <b>OR</b> Customised unit - J4ET 04 IT & Telecom System Operation 2	6	12
	H3AV 04 Testing IT & Telecom Systems 2 <b>OR</b> Customised unit - J4EN 04 Testing IT & Telecom Systems 2	6	12
	H3B5 04 Working with IT & Telecoms Hardware and Equipment 1 <b>OR</b> Customised unit - J4EP 04 Working with IT & Telecoms Hardware and Equipment 1	5	7
<b>Foundation Apprenticeship Certification Unit</b>	HE6E 04 Foundation Apprenticeship Certification	-	0
<b>TOTAL SCQF CREDIT POINTS</b>			<b>56</b>

### c. Pathway Apprenticeship - Information Technology Digital (Software)

GR54 46 Foundation Apprenticeship in Information Technology: Software Development			
Group Award Title	Unit Title	SCQF level	SCQF Credit Points
<b>GL4W 46 NPA in Software Development</b>	H6S9 46 Computing: Applications Development	6	6
	F3T2 12 Computing: Authoring a Website	6	6
	J27C 76 Software Design and Development	6	9
<b>Work Based Challenge Unit</b>	J4YL 04 Work Based Challenge	6	6
<b>Work Based Learning</b>	H3C5 04 Health and Safety in IT & Telecom <b>OR</b> Customised unit - J4ES 04 Health and Safety in IT & Telecom	4	1
	H3AH 04 Investigating and Defining Customer Requirements for IT & Telecoms Systems 2 <b>OR</b> Customised unit - J4EY 04 Investigating and Defining Customer Requirements for IT & Telecoms Systems 2	6	12
	H3BA 04 Data Modelling 1 <b>OR</b> Customised unit - J4F0 04 Data Modelling 1	5	4
	<b>one from</b>		

	H3A4 04 Event Driven Computer Programming 2 <b>OR</b> Customised unit - J4EV 04 Event Driven Computer Programming 2	6	12
	H3AE 04 Procedural Programming 2 <b>OR</b> Customised unit - J4EX 04 Procedural Programming 2	6	
	H3AB 04 Object Oriented Computer Programming 2 <b>OR</b> Customised unit - J4EW 04 Object Oriented Computer Programming 2	6	
<b>Foundation Apprenticeship Certification Unit</b>	HE6E 04 Foundation Apprenticeship Certification	-	0
<b>TOTAL SCQF CREDIT POINTS</b>			<b>56</b>

#### d. Pathway Apprenticeship – Engineering

A full breakdown of the available units within both the GR5N 22 (EAL GR6W 45) Performing Engineering Operations at SCQF Level 5 Performing Engineering Operations are available from page 12 onwards. Below is an example only of three mandatory courses and five optional courses available within GR5N 22 Performing Engineering Operations.

<b>GR5N 22 SVQ in Performing Engineering Operations</b>			
<b>Group Award Title</b>	<b>Unit Title</b>	<b>SCQF Level</b>	<b>SCQF Credit Points</b>
<b>GR5N 22 SVQ in Performing Engineering Operations at SCQF L5</b>	HE9D 04 Complying with statutory regulations and organisational safety requirements	5	5
	HE9C 04 Using and interpreting engineering data and documentation	5	5
	FR0T 04 Working efficiently and effectively in engineering	5	5
	Optional Unit **	5	Various
	Optional Unit **	5	Various
	Optional Unit **	5	Various
	Optional Unit **	5	Various
	Optional Unit **	5	Various

TOTAL SCQF CREDIT POINTS	Various
<p><b>Please Note:</b> the units from the lapsing SVQ Performing Engineering Operations (GL6E 22) are not displayed in the above table but are still visible for the FA on navigator. The full list of optional units can be found on the <a href="#">GR5N 55 Qualification Structure</a>. Candidates should not be registered on any of the lapsing optional units within GL6E 22 after 31/01/21.</p>	

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<b>Work Based Challenge Unit *</b>	J4YL 04 WBCU with Metaskills	6	6
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\* the project incorporated within the WBCU should be designed to contextualise the knowledge and skills within the PEO units

\*\* Providers may select any five optional units from Groups A or B in the full PEO specification, a full list of these units are available from the [GR5N 55 Qualification Structure](#). However, Group B units in the SVQ in Performing Engineering Operations at SCQF level 5 are skill specific work-based learning units. Assessment of these units in a sheltered environment is NOT acceptable for the qualification, and assessment must take place in the learner's place of work.

## Social Services Children & Young People

### e. Pathway Apprenticeship - Social Services Children & Young People

GR85 46 Foundation Apprenticeship in Social Services: Children and Young People (Customised Route)			
Group Award Title	Unit Title	SCQF level	SCQF Credit points
<b>GL79 46 National Progression Award (NPA) in Social Services (Children and Young People) at SCQF level 6</b>	HF5D 46 Safeguarding of Children and Young People	6	6
	HF5A 46 Play for Children and Young People	6	6
	HF5F 46 Communication with Children and Young People	6	6
	HF59 46 Development of Children and Young People	6	3
	HF5E 46 Promote the Wellbeing and Safety of Children and Young People	6	3
<b>Work Based Learning</b>	Customised Unit J55A 04 Support effective communication	6	10
	Customised Unit J55D 04 Support the health and safety of yourself and individuals	6	10
	Customised Unit J55C 04 Develop your own knowledge and practice	6	8
	Customised Unit J55B 04	6	9



	Support the safeguarding of children		
<b>Foundation Apprenticeship Certification Unit</b>	HE6E 04 Foundation Apprenticeship Certification Unit	-	0
<b>TOTAL SCQF CREDIT POINTS</b>			<b>61</b>

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<b>Work Based Challenge Unit*</b>	J4YL 04 WBCU with Metaskills	6	6
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\* *the project incorporated within the WBCU should be designed to contextualise the knowledge and skills within the NPA units*

## **f. Work-based Challenge unit**

The Work-based Challenge unit has been developed to enable an authentic work-based learning experience and to support the Participant to develop and reflect on the meta-skills needed to apply technical abilities in authentic work-based contexts.

It should be delivered in association with an employer and takes the form of a project relating to real work activity. Participants will be given a project brief and practical tasks to plan, complete and review the skills and processes required to carry it out.

For the purpose of the Pathway Apprenticeship, the Work-based Challenge unit will be delivered in parallel with a linked Foundation Apprenticeship/PEO course in the listed frameworks.

It will enable the development of meta-skills through project experience and the application of the technical skills from the linked course. It will normally be carried out by a group of Participants within the context of their chosen course and in work-based settings. The challenge will be of value to the Participant, and ideally to an employer and the wider community.

The specification for the work-based challenge, together with the selected linked course will form the full award.

The Work Based Challenge unit specification can be accessed through SQA systems.

## 2. Meta-skills

In response to the concept of 'Industry 4.0', or 'the fourth industrial revolution', the work-based challenge has been developed with the concepts of meta-skills at its foundation. Meta-skills have been identified as skills that will help learners adapt to and embrace the inevitable changes to industry, job roles and society, expected as a result of continuing technological advance.

In the work-based skills challenge, meta-skills are positioned as tools that enable learners to apply and adapt technical skills in response to real world challenges and opportunities, with emphasis on their development via the practical, work-based project. The project has been designed to encourage the acquisition of new skills through extensive engagement in collaborative and/or group working, problem solving activities and reflective practice.

A key requirement for centres delivering the work-based challenge is that they are able to assume roles of coach/mentor/facilitator to help learners understand, develop and reflect on their own meta-skills as well as those central to the project or skills sector.

The development of these meta-skills will support learners as they prepare themselves for this uncertain and constantly evolving future. It will also help centres to develop innovative delivery and assessment methods that maximise the opportunities for skills development to be integrated throughout delivery and assessment.

The meta-skills have been grouped into broad categories as follows:

Self management	Social intelligence	Innovation
Focussing	Communicating	Curiosity
Integrity	Feeling	Creativity
Adapting	Collaborating	Sense making
Initiative	Leading	Critical thinking

(Adapted from: *Skills 4.0: a skills model to drive Scotland's future*, Centre for Work-based Learning in Scotland, (2018). This is available at [https://www.skillsdevelopmentscotland.co.uk/media/44684/skills-40\\_a-skills-model.pdf](https://www.skillsdevelopmentscotland.co.uk/media/44684/skills-40_a-skills-model.pdf))

Further information on meta-skills will be provided in the support materials for the work-based challenge.

## **Project-based assessment**

The project-based approach provides alignment between assessment practice and the way learning takes place in industry, providing an authentic context to develop meta-skills and apply the technical skills gained from the linked Foundation Apprenticeship/PEO programme. Learners will have opportunities to experience end-to-end projects as they might occur in industry, and can use processes, tools and ways of working they might find there. The project approach supports individualistic and self-directed learning where the focus is on personal skills and development, as well as experience of collaborative working practices.

Learners will be given a project brief to produce a product, event, service or something else relevant to the sector. This will be agreed by the centre/employer partnership, and will be appropriate to the resources, time and ability level of the learners. Learners will complete three outcomes in relation to the iterative development of and reflection on meta-skills and the process to complete the project brief.

The specification for the work-based challenge will include evidence requirements, support notes for teaching and learning, employer involvement and a candidate guide. Opportunities for identifying, developing and reflecting on meta-skills will be indicated, as will those for combining assessment of the work-based challenge outcomes with those from some of the technical skills units in the linked Foundation Apprenticeship/PEO programme.

## **Industry partnership**

A key feature of the Work-based Challenge is that it includes employer involvement, arranged in advance of delivery. The involvement of an industry partner or employer in setting and evaluating the Work-based Challenge is essential and will ensure that delivery and assessment are reflective of real, work-based situations. The Work-based Challenge will therefore be of value to the learner and ideally to the employer and the wider community.



## GR5N 22 3. Performing Engineering Operations at SCQF Level 5

To attain the qualification candidates must complete 8 units in total. This comprises:

- ◆ 3 mandatory Units
- ◆ 5 optional Units

Please note the table below shows the SSC identification codes listed alongside the corresponding SQA Unit codes. It is important that the SQA Unit codes are used in all your recording documentation and when your results are communicated to SQA.

<b>Mandatory Units: Candidates must complete all 3 Units from this group</b>				
<b>SQA code</b>	<b>SSC code</b>	<b>Title</b>	<b>SCQF level</b>	<b>SCQF credits</b>
HE9D 04	SEMMAN123-01	Complying with Statutory Regulations and Organisational Safety Requirements	5	5
HE9C 04	SEMMAN23-02	Using and Interpreting Engineering Data and Documentation	5	5
FR0T 04	SEMMAN3-03	Working Efficiently and Effectively in Engineering	5	5

**Optional Section - 5 units must be selected (units may be chosen from Option Group A and/or Group B)**

**Units selected from Group B must be assessed in the learner's place of work**

**Option Group A**

<b>SQA code</b>	<b>SSC code</b>	<b>Title</b>	<b>SCQF level</b>	<b>SCQF credits</b>
J4HT 04	SEMPEO2 04	Producing Mechanical Engineering Drawings Using a CAD System	5	29
J4HV 04	SEMPEO2 05	Producing Components Using Hand Fitting Techniques	5	22
J4HW 04	SEMPEO2 06	Producing Mechanical Assemblies	5	23
J4HX 04	SEMPEO2 07	Forming and Assembling Pipework Systems	5	27
J4HY 04	SEMPEO2 08	Carrying Out Aircraft Detail Fitting Activities	5	30
J4J0 04	SEMPEO2 09	Installing Aircraft Mechanical Fasteners	5	22
J4J1 04	SEMPEO2 10	Producing Aircraft Detail Assemblies	5	28
J4J2 04	SEMPEO2 11	Preparing and Using Lathes for Turning Operations	5	29
J4J3 04	SEMPEO2 12	Preparing and Using Milling Machines	5	28
J4J4 04	SEMPEO2 13	Preparing and Using Grinding Machines	5	31
J4J5 04	SEMPEO2 14	Preparing and Proving CNC Machine Tool Programs	5	30
J4J6 04	SEMPEO2 15	Preparing and Using CNC Turning Machines	5	34
J4J9 04	SEMPEO2 16	Preparing and Using CNC Milling Machines	5	34
J4JA 04	SEMPEO2 17	Preparing and Using CNC Machining Centres	5	34
J4JB 04	SEMPEO2 18	Preparing and Using Industrial Robots	5	34
J4JC 04	SEMPEO2 19	Maintaining Mechanical Devices and Equipment	5	31
J4JD 04	SEMPEO2 20	Assembling and Testing Fluid Power Systems	5	36
J4JE 04	SEMPEO2 21	Maintaining Fluid Power Equipment	5	36
J4JF 04	SEMPEO2 22	Producing Sheet Metal Components and Assemblies	5	25
J4JG 04	SEMPEO2 23	Producing Platework Components and Assemblies	5	36
J4JH 04	SEMPEO2 24	Cutting and Shaping Materials Using Thermal Cutting Equipment	5	36
J4JJ 04	SEMPEO2 25	Preparing and Proving CNC Fabrication Machine Tool Programs	5	31
J4JK 04	SEMPEO2 26	Preparing and Using CNC Fabrication Machinery	5	34
J4JM 04	SEMPEO2 27	Preparing and Using Manual Metal Arc Welding Equipment	5	29
J4JN 04	SEMPEO2 28	Preparing and Using Manual TIG or Plasma-Arc Welding Equipment	5	33

J4JP 04	SEMPEO2 29	Preparing and Using Semi-Automatic MIG, MAG and Flux Cored Arc Welding Equipment	5	34
J4JR 04	SEMPEO2 30	Preparing and Using Manual Oxy/Fuel Gas Welding Equipment	5	29
J4JV 04	SEMPEO2 31	Preparing and Using Manual Flame Brazing and Braze Welding Equipment	5	30
J4JW 04	SEMPEO2 32	Producing Electrical or Electronic Engineering Drawings Using a CAD System	5	32
J4JX 04	SEMPEO2 33	Wiring and Testing Electrical Equipment and Circuits	5	32
J4K2 04	SEMPEO2 34	Forming and Assembling Electrical Cable Enclosure and Support Systems	5	27
J4K3 04	SEMPEO2 35	Assembling, Wiring and Testing Electrical Panels/Components Mounted in Enclosures	5	31
J4K4 04	SEMPEO2 36	Assembling and Testing Electronic Circuits	5	32
J4K5 04	SEMPEO2 37	Maintaining Electrical Equipment/Systems	5	34
J4K6 04	SEMPEO2 38	Maintaining Electronic Equipment/Systems	5	34
J4K7 04	SEMPEO2 39	Maintaining and Testing Process Instrumentation and Control Devices	5	32
J4K8 04	SEMPEO2 40	Wiring and Testing Programmable Controller Based Systems	5	33
J4K9 04	SEMPEO2 41	Using Wood for Pattern, Modelmaking and other Engineering Applications	5	29
J4KA 04	SEMPEO2 42	Assembling Pattern, Model and Engineering Woodwork Components	5	27
J4KB 04	SEMPEO2 44	Producing Composite Mouldings Using Pre-Preg Techniques	5	32
J4KD 04	SEMPEO2 45	Producing Composite Mouldings Using Resin Flow Infusion Techniques	5	32
J4KE 04	SEMPEO2 46	Producing Composite Assemblies	5	25
J4KF 04	SEMPEO2 52	Finishing Surfaces by Applying Coatings or Coverings	5	29
J4KG 04	SEMPEO2 54	Carrying out Heat Treatment of Engineering Materials	5	27
J4KH 04	SEMPEO2 61	Producing CAD Models (Drawings) Using a CAD System	5	33
J4KJ 04	SEMPEO2 62	Producing Engineering Project Plans	5	29
J4KK 04	SEMPEO2 63	Using Computer Software Packages to Assist with Engineering Activities	5	27
J4KL 04	SEMPEO2 64	Conducting Business Improvement Activities	5	32
J4KM 04	SEMPEO2 65	General Machining, Fitting and Assembly Applications	5	32
J4KN 04	SEMPEO2 66	General Fabrication and Welding Applications	5	32

J4KP 04	SEMPEO2 67	General Electrical and Electronic Engineering Applications	5	32
J4KT 04	SEMPEO2 68	General Maintenance Engineering Applications	5	32
J4KV 04	SEMPEO2 70	Assembling Structural Sub Assemblies to Produce a Public Service Vehicle	5	28
J4KX 04	SEMPEO2 71	Fitting Sub Assemblies and Components to Public Service Vehicles	5	28
J4KY 04	SEMPEO2 73	Producing Composite Mouldings Using Resin Film Infusion Techniques	5	32

Units selected from Group B must be assessed in the learner's place of work				
SQA code	SSC code	Title	SCQF level	SCQF credits
J4L0 04	SEMMME2 05	Operating Centre Lathes	5	30
J4L1 04	SEMMME2 08	Operating Milling Machines	5	30
J4L2 01	SEMMME2 19	Operating CNC Turning Machines	5	33
J4L3 04	SEMMME2 20	Operating CNC Milling Machines	5	33
J4L4 04	SEMMME2 24	Operating CNC Electro-Discharge Machines	5	33
J4L5 04	SEMMME2 26	Operating CNC Machining Centres	5	33
J4L6 04	SEMMME2 27	Producing Mechanical Sub-Assemblies/ Assemblies	5	28
J4L8 04	SEMMME2 28	Assembling Fluid Power Components to Mechanical Equipment	5	28
J4L9 04	SEMMME2 29	Assembling Electrical or Electronic Components to Mechanical Equipment	5	30
J4LA 04	SEMMME2 30	Assembling Pipework Components to Mechanical Equipment	5	31
J4LB 04	SEMEMI20 4	Handing Over and Confirming Completion of Maintenance or Installation	5	29
J4LC 04	SEMEMI20 5	Carrying Out Fault Location on Mechanical Equipment	5	31
J4LD 04	SEMEMI20 6	Carrying Out Maintenance Activities on Mechanical Equipment	5	29
J4LE 04	SEMEMI20 7	Restoring Mechanical Components to Usable Condition by Repair	5	29
J4LF 04	SEMEMI20 8	Carrying Out Scheduled Maintenance Activities on Mechanical Equipment	5	29
J4LG 04	SEMEMI20 9	Carrying Out Fault Location on Electrical Equipment and Circuits	5	31
J4LH 04	SEMEMI21 0	Carrying Out Maintenance Activities on Electrical Equipment	5	32
J4LJ 04	SEMEMI21 1	Carrying Out Modifications or Rewiring Electrical Circuits	5	31
J4LK 04	SEMEMI21 2	Carrying Out Scheduled Maintenance Tasks on Electrical Equipment	5	30



J4LL 04	SEMEMI21 6	Carrying Out Fault Location on Fluid Power Equipment and Circuits	5	32
J4LM 04	SEMEMI21 7	Carrying Out Maintenance Activities on Fluid Power Equipment	5	31
J4LP 04	SEMEMI21 8	Carrying Out Scheduled Maintenance Tasks on Fluid Power Equipment	5	31
J4LR 04	SEMEMI21 9	Carrying Out Fault Location on Service Systems and Equipment	5	32
J4LS 04	SEMEMI22 0	Carrying Out Scheduled Maintenance Tasks on Service Systems and Equipment	5	29
J4LT 04	SEMEMI22 7	Carrying Out Maintenance on Compressed Air Equipment	5	29
J4LV 04	SEMEMI24 7	Assisting in the Installation of Mechanical Equipment	5	32
J4LW 04	SEMFWE2 05	Joining Materials by the Semi-Automatic MIG/MAG and Flux Cored Arc Processes	5	32
J4LX 04	SEMFWE2 08	Producing Fillet Welded Joints Using a Manual/Semi-Automatic Welding Process	5	32
J4LY 04	SEMFWE2 09	Welding Materials with Mechanised Arc Welding Equipment	5	32
J4M0 04	SEMFWE2 21	Marking Out Components for Fabrication	5	26
J4M1 04	SEMFWE2 22	Cutting Sheet Metal to Shape Using Hand and Machine Tools	5	24
J4M2 04	SEMFWE2 23	Forming Sheet Metal Using Hand and Machine Tools	5	26
J4M3 04	SEMFWE2 24	Producing Sheet Metal Assemblies	5	27
J4M4 04	SEMFWE2 26	Cutting and Shaping Materials Using CNC Laser Profiling Machines	5	31
J4M5 04	SEMFWE2 27	Cutting and Shaping Using CNC Plasma or Gas Cutting Machines	5	30
J4M6 04	SEMFWE2 28	Assembling Components Using Mechanical Fasteners	5	27
J4M7 04	SEMFWE2 31	Slinging, Lifting and Moving Materials and Components	5	23
J4M8 04	SEMFWE2 32	Cutting Plate and Sections Using Shearing Machines	5	26
J4M9 04	SEMFWE2 35	Cutting Materials Using Saws and Abrasive Discs	5	32
J4MA 04	SEMFWE2 36	Bending and Forming Plate Using Power Operated Machines	5	30
J4MB 04	SEMFWE2 38	Producing Platework Assemblies	5	31
J4MC 04	SEMFWE2 39	Producing Holes Using Drilling Machines	5	30
J4MD 04	SEMFWE2 41	Producing Structural Steel Ancillary Components	5	30
J4ME 04	SEMFWE2 42	Assembling Structural Steelwork	5	32
J4MG 04	SEMME211 9	Assisting in the Installation of Wooden Furniture/Outfitting Units for Yachts and Boats	5	39

J4MH 04	SEMME212 2	Fitting Seating, Interior Panels, Soft Furnishing and Trim in Yachts and Boats	5	30
J4MJ 04	SEMME212 3	Carrying Out Repairs to Yacht and Boat Wooden Components and Assemblies	5	37
J4MK 04	SEMME212 4	Carrying Out Repairs to Yacht and Boat Composite Components	5	33

## GR6W 45 Performing Engineering Operation EAL

### Qualification structure

To achieve the SVQ Performing Engineering Operations at SCQF Level 5 qualification learners are required to obtain the **three** mandatory units plus **five** optional units from either **Group A** and/or **Group B**

**Units selected from Group B must be delivered and assessed in the Learner's place of work**

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

<u>EAL code</u>	<u>Assessment route title</u>	<u>SCQF Level</u>	<u>SCQF Credit value</u>
SCPEO2/001	Complying with statutory regulations and organisational safety requirements	5	5
SCPEO2/002	Using and interpreting engineering data and documentation	5	5
SCPEO2/003	Working Efficiently and Effectively in Engineering	5	5

**Group A Optional assessment routes:**

SCPEO2/004	Producing Mechanical Engineering Drawings using a CAD System	5	29
SCPEO2/005	Producing Components using Hand Fitting Techniques	5	22
SCPEO2/006	Producing Mechanical Assemblies	5	23
SCPEO2/007	Forming and Assembling Pipework Systems	5	27
SCPEO2/008	Carrying Out Aircraft Detail Fitting Activities	5	30
SCPEO2/009	Installing Aircraft Mechanical Fasteners	5	22
SCPEO2/010	Producing Aircraft Detail Assemblies	5	28

SCPEO2/011	Preparing and Using Lathes for Turning Operations	5	29
SCPEO2/012	Preparing and Using Milling Machines	5	28
SCPEO2/013	Preparing and Using Grinding Machines	5	31
SCPEO2/014	Preparing and Proving CNC Machine Tool Programs	5	30
SCPEO2/015	Preparing and Using CNC Turning Machines	5	34
SCPEO2/016	Preparing and Using CNC Milling Machines	5	34
SCPEO2/017	Preparing and Using CNC Machining Centres	5	34
SCPEO2/018	Preparing and Using Industrial Robots	5	34
SCPEO2/019	Maintaining Mechanical Devices and Equipment	5	31
SCPEO2/020	Assembling and Testing Fluid Power Systems	5	36
SCPEO2/021	Maintaining Fluid Power Equipment	5	36
SCPEO2/022	Producing Sheet Metal Components and Assemblies	5	25
SCPEO2/023	Producing Platework Components and Assemblies	5	36
SCPEO2/024	Cutting and Shaping Materials using Thermal Cutting Equipment	5	36
SCPEO2/025	Preparing and Proving CNC Fabrication Machine Tool Programs	5	31
SCPEO2/026	Preparing and Using CNC Fabrication Machinery	5	34
SCPEO2/027	Preparing and Using Manual Metal Arc Welding Equipment	5	29
SCPEO2/028	Preparing and Using Manual TIG or Plasma-arc Welding Equipment	5	33
SCPEO2/029	Preparing and Using Semi-automatic MIG, MAG and Flux Cored Arc Welding Equipment	5	34
SCPEO2/030	Preparing and Using Manual Oxy/fuel Gas Welding Equipment	5	29
SCPEO2/031	Preparing and Using Manual Flame Brazing and Braze Welding Equipment	5	30
SCPEO2/032	Producing Electrical or Electronic Engineering Drawings using a CAD System	5	32
SCPEO2/033	Wiring and Testing Electrical Equipment and Circuits	5	32

SCPEO2/034	Forming and Assembling Electrical Cable Enclosure and Support Systems	5	27
SCPEO2/035	Assembling, Wiring and Testing Electrical Panels/Components Mounted in enclosures	5	31
SCPEO2/036	Assembling and Testing Electronic Circuits	5	32
SCPEO2/037	Maintaining Electrical Equipment/Systems	5	34
SCPEO2/038	Maintaining Electronic Equipment/Systems	5	34
SCPEO2/039	Maintaining and Testing Process Instrumentation and Control Devices	5	32
SCPEO2/040	Wiring and Testing Programmable Controller Based Systems	5	33
SCPEO2/041	Using Wood for Pattern, Modelmaking and Other Engineering Applications	5	29
SCPEO2/042	Assembling Pattern, Model and Engineering Woodwork Components	5	27
SCPEO2/044	Producing composite mouldings using pre-preg techniques	5	32
SCPEO2/045	Producing composite mouldings using resin flow infusion techniques	5	32
SCPEO2/046	Producing Composite Assemblies	5	25
SCPEO2/052	Finishing Surfaces by Applying Coatings or Coverings	5	29
SCPEO2/054	Carrying Out Heat Treatment of Engineering Materials	5	27
SCPEO2/061	Producing CAD Models (Drawings) using a CAD System	5	33
SCPEO2/062	Producing Engineering Project Plans	5	29
SCPEO2/063	Using Computer Software Packages to Assist with Engineering Activities	5	27
SCPEO2/064	Conducting Business Improvement Activities	5	32
SCPEO2/065	General Machining, Fitting and Assembly Applications	5	32
SCPEO2/066	General Fabrication and Welding Applications	5	32
SCPEO2/067	General Electrical and Electronic Engineering Applications	5	32
SCPEO2/068	General Maintenance Engineering Applications	5	32
SCPEO2/070	Assembling Structural Sub-Assemblies to Produce a Public Service Vehicle	5	28

SCPEO2/071	Fitting Sub-Assemblies and Components to Public Service Vehicles	5	28
SCPEO2/073	Producing Composite Mouldings using Resin Film Infusion Techniques	5	32

### Group B Optional assessment routes

SCPEO2/074	Operating Centre Lathes	5	30
SCPEO2/075	Operating Milling Machines	5	30
SCPEO2/076	Operating CNC Turning Machines	5	33
SCPEO2/077	Operating CNC Milling Machines	5	33
SCPEO2/078	Operating CNC Electro-Discharge Machines	5	33
SCPEO2/079	Operating CNC Machining Centres	5	33
SCPEO2/080	Producing Mechanical Sub-Assemblies/ Assemblies	5	28
SCPEO2/081	Assembling Fluid Power Components to Mechanical Equipment	5	28
SCPEO2/082	Assembling Electrical or Electronic Components to Mechanical Equipment	5	30
SCPEO2/083	Assembling Pipework Components to Mechanical Equipment	5	31
SCPEO2/084	Handing Over and Confirming Completion of Maintenance or Installation	5	29
SCPEO2/085	Carrying Out Fault Location on Mechanical Equipment	5	31
SCPEO2/086	Carrying Out Maintenance Activities on Mechanical Equipment	5	29
SCPEO2/087	Restoring Mechanical Components to Usable Condition by Repair	5	29
SCPEO2/088	Carrying Out Scheduled Maintenance Activities on Mechanical Equipment	5	29
SCPEO2/089	Carrying Out Fault Location on Electrical Equipment and Circuits	5	31
SCPEO2/090	Carrying Out Maintenance Activities on Electrical Equipment	5	32
SCPEO2/091	Carrying Out Modifications or Rewiring Electrical Circuits	5	31
SCPEO2/092	Carrying Out Scheduled Maintenance Tasks on Electrical Equipment	5	30

SCPEO2/093	Carrying Out Fault Location on Fluid Power Equipment and Circuits	5	32
SCPEO2/094	Carrying Out Maintenance Activities on Fluid Power Equipment	5	31
SCPEO2/095	Carrying Out Scheduled Maintenance Tasks on Fluid Power Equipment	5	31
SCPEO2/096	Carrying Out Fault Location on Service Systems and Equipment	5	32
SCPEO2/097	Carrying Out Scheduled Maintenance Tasks on Service Systems and Equipment	5	29
SCPEO2/099	Carrying Out Maintenance on Compressed Air Equipment	5	29
SCPEO2/100	Assisting in the Installation of Mechanical Equipment	5	32
SCPEO2/108	Joining Materials by Semi-automatic MIG/MAG and Flux cored arc Processes	5	32
SCPEO2/109	Producing Fillet Welded Joints Using a Manual/Semiautomatic Welding Process	5	32
SCPEO2/110	Welding Materials with Mechanised Arc Welding Equipment	5	32
SCPEO2/111	Marking Out Components for Fabrication	5	26
SCPEO2/112	Cutting Sheet Metal to Shape Using Hand and Machine Tools	5	24
SCPEO2/113	Forming Sheet Metal Using Hand and Machine Tools	5	26
SCPEO2/114	Producing Sheet Metal Assemblies	5	27
SCPEO2/115	Cutting and Shaping Materials using CNC Laser Profiling Machines	5	31
SCPEO2/116	Cutting and Shaping Using CNC Plasma or Gas Cutting Machines	5	30
SCPEO2/117	Assembling Components Using Mechanical Fasteners	5	27
SCPEO2/118	Slinging, Lifting and Moving Materials and Components	5	23
SCPEO2/119	Cutting Plate and Sections Using Shearing Machines	5	26
SCPEO2/120	Cutting Materials Using Saws and Abrasive Discs	5	32
SCPEO2/121	Bending and Forming Plate Using Power Operated Machines	5	30
SCPEO2/122	Producing Platework Assemblies	5	31
SCPEO2/123	Producing Holes Using Drilling Machines	5	30

SCPEO2/124	Producing Structural Steel Ancillary Components	5	30
SCPEO2/125	Assembling Structural Steelwork	5	32
SCPEO2/127	Assisting in the installation of wooden furniture/outfitting units for yachts and boats	5	39
SCPEO2/129	Fitting seating, interior panels, soft furnishing and trim in yachts and boats	5	30
SCPEO2/130	Carrying out repairs to yacht and boat wooden components and assemblies	5	37
SCPEO2/131	Carrying out repairs to yacht and boat composite components	5	33