

4.0 Qualification specific information

Pathway 1 - Electrical/Electronic Installation and Testing SMENA

Learner's must complete the three Mandatory assessment routes below plus one further mandatory assessment route and two optional assessment routes (a total of six Units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

The following mandatory assessment route must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/004A	Installing cable runs and circuits in marine structures	6	55

Two optional assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/005A	Installing marine power generation and distribution equipment and systems	6	54
SMEN3/006A	Installing marine communication equipment and systems	6	57
SMEN3/007A	Installing marine navigational equipment and systems	6	61
SMEN3/008A	Installing marine sensor equipment and systems	6	57
SMEN3/009A	Installing marine computer equipment and systems	6	57
SMEN3/010A	Installing marine weapons equipment and systems	6	57
SMEN3/012A	Installing marine lighting, alarm, detection and monitoring equipment and systems	6	54
SMEN3/013A	Setting to work, testing and trialling marine electrical power generation and distribution equipment and systems	7	68
SMEN3/014A	Setting to work, testing and trialling marine communication equipment and systems	7	68
SMEN3/015A	Setting to work, testing and trialling marine navigational equipment and systems	7	68
SMEN3/020A	Setting to work, testing and trialling marine lighting, alarm, detection and monitoring equipment and systems	7	66

Pathway 2 - Electrical Maintenance and Overhaul SMENB

Learner's must complete the three Mandatory assessment routes below plus two further mandatory assessment routes plus three optional assessment routes (a total of eight units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

The following two mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/033A	Maintaining marine lighting, alarm, detection and monitoring equipment and systems	6	60
SMEN3/038A	Overhauling marine electrical rotating machines and domestic equipment	6	62

Three optional assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/021A	Diagnosing faults on marine electrical equipment and circuits	7	62
SMEN3/022A	Modifying and rewiring marine electrical circuits	6	52
SMEN3/004A	Installing cable runs and circuits in marine structures	6	55
SMEN3/023A	Testing marine electrical and electronic equipment and circuits	6	50

Pathway 3 - Pipework SMENC

Learner's must complete the three Mandatory assessment routes below plus four further mandatory assessment routes plus two optional assessment routes (a total of nine units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

The following four mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/039A	Bending and forming marine pipe using hand methods	6	48
SMEN3/040A	Bending and forming marine pipe using bending machines	6	49
SMEN3/041A	Assembling ferrous marine pipework by mechanical means	6	51
SMEN3/042A	Assembling non-ferrous marine pipework	6	51

Two optional assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/044A	Installing marine pipework and components	6	49
SMEN3/045A	Preparing and testing marine pipework systems	6	43
SMEN3/046A	Producing socket and flange fillet welded joints in pipe using a manual welding process	6	49
SMEN3/047A	Joining marine pipework by manual torch brazing and soldering	6	50

Pathway 4 - Structural Steelwork SMEND

Learner's must complete the three Mandatory assessment routes below plus two further mandatory assessment routes, plus four optional assessment routes (a total of nine units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

The following two mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/049A	Marking Off marine structural steelwork components	6	47
SMEN3/050A	Assembling fabricated components to produce marine sub-assemblies	6	49

Four optional assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/051A	Cutting and shaping materials using portable thermal cutting equipment	6	48
SMEN3/052A	Assembling sub-assemblies and components to produce major marine structural assemblies	6	51
SMEN/053A	Lining off for assembly and erection of marine steelwork and components	6	46
SMEN3/054A	Cutting materials using hand and machine tools	6	47
SMEN3/055A	Forming marine components using power rolling machines	6	47
SMEN3/056A	Forming marine components using a power press	6	47
SMEN3/062A	Outfitting marine steelwork	6	50
SMEN3/063A	Tack welding marine plate using a manual/semi automatic welding process	6	45
SMEN3/065A	Checking marine fabrications for quality and dimensional accuracy	6	46

Pathway 5 - Mechanical Installation SMENE

Learner's must complete the three Mandatory assessment routes below plus two optional assessment routes (a total of five units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

Two optional assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/067A	Installing marine propulsion systems and equipment	6	54
SMEN3/068A	Installing marine power transmission systems and equipment	6	56
SMEN3/070A	Installing marine hydraulic systems and equipment	6	55
SMEN3/073A	Installing marine mechanical control systems and equipment	6	55
SMEN3/076A	Installing marine ancillary plant and equipment	6	53
SMEN3/079A	Installing marine fire main systems and equipment	6	55

Pathway 6 - Mechanical Maintenance and Overhaul SMENF

Learner's must complete the three Mandatory assessment routes below plus three optional assessment routes from Group A, and two optional assessment routes from Group B (total of eight units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

Group A

Three optional assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/097A	Diagnosing faults on marine mechanical equipment	7	60
SMEN3/098A	Carrying out planned maintenance activities on marine mechanical equipment	6	60
SMEN3/100A	Restoring marine mechanical components to usable condition by repair	6	52
SMEN3/101A	Producing replacement components for marine maintenance activities	6	52
SMEN3/102A	Dismantling and removing marine mechanical equipment	6	57
SMEN3/025A	Slings, lifting and moving materials, machinery and components in a marine environment	6	45

Group B

Two optional assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/103A	Maintaining marine propulsion systems	6	59
SMEN3/105A	Maintaining marine fuel systems and equipment	6	58
SMEN3/106A	Maintaining marine hydraulic systems and equipment	6	57
SMEN3/108A	Maintaining marine auxiliary power units	6	58
SMEN3/109A	Maintaining marine mechanical control equipment and systems	6	58
SMEN3/110A	Maintaining marine steering gear, control systems and equipment	6	58
SMEN3/118A	Overhauling marine propulsion systems	7	61
SMEN3/120A	Overhauling marine fuel systems and equipment	7	60

Pathway 7 - Woodwork/Outfitting SMENG

Learner's must complete the three Mandatory assessment routes below plus one assessment routes from Optional Group A, and three assessment routes from Optional Group B (total of seven units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

Group A

One optional assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/133A	Marking out for the manufacture and assembly of marine wooden components	6	48
SMEN3/134A	Marking out for the installation of marine wooden assemblies	6	48

Group B

Three optional assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/135A	Producing marine wooden components using hand tools	6	49
SMEN3/136A	Producing marine wooden components using machines	6	51
SMEN3/137A	Assembling marine wooden components	6	47
SMEN3/138A	Installing marine wooden components	6	49
SMEN3/150A	Repairing marine composite components and assemblies	6	48

Pathway 8 - Sheet Metalwork SMENH

Learner's must complete the 3 Mandatory assessment routes below plus a further seven mandatory assessment routes (total of ten units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

The following seven mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/152A	Marking out for fabrication and assembly of marine sheet metalwork	6	47
SMEN3/153A	Cutting sheet metal to shape using hand and machine tools	6	49
SMEN3/154A	Forming marine sheet metal components using hand and machine tools	6	50
SMEN3/155A	Producing marine sheet metal assemblies	6	47
SMEN3/156A	Installing marine sheet metal components and assemblies	6	51
SMEN3/157A	Joining marine sheet metal components using mechanical fasteners	6	45
SMEN3/158A	Producing fillet welded joints using a manual/semi automatic welding process	6	46

Pathway 9 - Marine Welding SMENI

Learner's must complete the three Mandatory assessment routes below plus either the two manual welding assessment routes in Group A or one manual welding assessment route from Group A plus the two assessment routes from Group B (total of five or six units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

Group A

EAL code	Assessment route title	Level	Credit Value
SMEN3/162A	Welding marine materials and structures using the manual metal arc process	6	50
SMEN3/163A	Welding marine materials and structures using semi-automatic MIG/MAG and flux cored arc processes	6	50

Group B

EAL code	Assessment route title	Level	Credit Value
SMEN3/169A	Preparing mechanised arc welding equipment for production	6	47
SMEN3/170A	Welding materials with mechanised arc welding equipment	6	45

Pathway 10 - Coating SMENJ

Learner's must complete the three Mandatory assessment routes below above plus a further four mandatory assessment routes (total of seven units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

The following four mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/181A	Preparing marine material surfaces using hand and mechanical tools	6	46
SMEN3/182A	Preparing marine coating materials for application	6	44
SMEN3/183A	Applying marine coatings manually	6	43
SMEN3/184A	Applying marine coatings using spray methods	6	43

Pathway 11 - Rigging SMENK

Learner's must complete the three Mandatory assessment routes below plus a further two mandatory assessment routes and three optional assessment routes (total of eight units)

Mandatory: All three mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/001A	Complying with statutory regulations and organisational safety requirements	5	5
SMEN3/002A	Using and interpreting engineering data and documentation	5	5
SMEN3/003A	Working efficiently and effectively in engineering	5	5

The following two mandatory assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/192A	Preparing loads for moving	6	45
SMEN3/025A	Slinging, lifting and moving materials, machinery and components in a marine environment	6	45

Three optional assessment routes must be completed

EAL code	Assessment route title	Level	Credit Value
SMEN3/193A	Preparing for rigging activities	6	45
SMEN3/196A	Maintaining rigging and lifting equipment	6	54
SMEN3/198A	Preparing docks and slips for vessel operations	6	51
SMEN3/201A	Installing rigging and lifting equipment	6	54