



UNIT STANDARD TRACKING DOCUMENT

National Certificate in Engineering Fabrication - Level 2

National certificate in Engineering Fabrication - Level 3

National certificate in Engineering Fabrication - Level 4

June 2008

List	Old Unit Standards					New revised Unit Standards registered 2008					
	NLRD Ref No	MQA Ref No	Title	Level	Credits	NLRD Ref No	MQA Ref No	Title	Level	Credits	Comments
1	10745	EnM-G012	Cut mild steel by means of an Oxy-acetylene cutting torch	2	3	243067		Cut materials using the oxy-fuel gas cutting process (manual cutting)	2	6	Equivalent
2	12215		Read, interpret and produce basic engineering drawings	2	6	243075		Draw and interpret simple plate, pipe and structural steel plate, pipe and structural steel drawings	2	6	Equivalent
3	10845	EnM-G075	Bend steel by means of a bending machine	2	3	12240		Form and shape sheetmetal using hand or power operated machines	2	8	Range: Must do both - EnM-G075 and EnM-G078
	10851	EnM-G078	Roll material by means of a plate rolling machine	2	5						
4		EnM-G412	Identify engineering equipment and materials	1	7	244345		Identify fabrication materials, their characteristics and applications used in engineering	2	4	Equivalent
5						244342		Measure and mark off steel profiles	2	2	
6	10849	EnM-G077	Punch and shear material by means of a punch and shearing machine	2	3	12239		Mechanically cut, drill and punch fabrication materials	2	10	Range: Must do all - EnM-G076, EnM-G077, EnM-G100
		EnM-G100	Drill a hole by means of a radial arm or pedestal drilling machine	2	4						
	10847	EnM-G076	Cut material by means of a hydraulic or electric guillotine	2	2						
7		EnM-G100	Drill a hole by means of a radial arm or pedestal drilling machine	2	4	13214		Operate and monitor a drilling machine to produce simple components	2	6	Equivalent
8	12216		Select, use and care for engineering hand tools	2	8	119744		Select, use and care for engineering hand tools	2	8	Equivalent
9	12476		Select, use and care for engineering measuring equipment	2	4	12476		Select, use and care for engineering measuring equipment	2	4	Equivalent - (SAQA NLRD number still valid)
10	12219		Select, use and care for portable engineering power tools	2	6	12219		Select, use and care for engineering power tools	2	6	Equivalent - (SAQA NLRD number still valid)
11	5739		Basic Rigging	2	4	12481		Sling loads	2	4	Equivalent
12	10762	EnM-G024	Join mild steel by means of arc welding	2	11	243063		Weld carbon steel work-pieces using the shielded metal arc welding process in the down-hand position	2	15	Equivalent
13	10789	EnM-G047	Weld mild steel by means of Oxy-acetylene equipment	3	4	243072		Weld workpieces using the oxy-acetylene gas welding process in the downhand position	2	10	Equivalent
14						9443		Work safely and use safety equipment	2	7	
15						12246		Assemble and mechanically join sheet, plate, tube, pipe and steel sections	3	4	
16											
17						115101		Address workplace hazards and risks	2	4	
18	116520		Apply safety, health and environmental principles and procedures in a workplace	2	2	116520		Apply safety, health and environmental principles and procedures in a workplace	2	2	Equivalent - (SAQA NLRD number still valid)
19						14883		Apply work site practices	2	5	
20						116533		Demonstrate basic knowledge and understanding of emergency preparedness and response	2	2	
21						110205		Demonstrate knowledge of the Mine Health and Safety Act, regulations and definitions	2	5	
22						12466		Explain the individual's role within business	2	4	
23	9678	MnH-G001	Follow basic health and safety practices underground	2	5	244445		Follow basic health and safety practices underground	2	5	Equivalent
24						9268		Manage basic personal finance	2	6	
25		EnM-G179	Lift and move loads using an overhead crane (pendant/remote control)	3	2	116235		Operate a pendant controlled overhead crane	2	5	Equivalent
26						12484		Perform basic fire fighting	2	4	
27						12483		Perform basic first aid	2	4	
28	115547	EnM-G178	Replace conveyor belt steel structures	2	3	115547	EnM-G178	Replace conveyor belt steel structures (stringers, cradles)	2	3	Equivalent - (SAQA NLRD number still valid)
29						14713		Use welding definitions and symbols	2	5	
30		EnM-G192	Join metals horizontal, overhead and vertical by means of arc welding	3	13	243056		Weld carbon steel work pieces using the shielded metal arc welding process in all positions	2	16	Equivalent
31						115093		Control workplace hazardous substances	Level 3	4	
32		EnM-G176	Fabricate a steel pipe section using the contour marker method	2	9	244339		Mark off and fabricate sections using the contour marker method	Level 3	9	Equivalent
33	10789	EnM-G047	Weld mild steel by means of Oxy-acetylene equipment	3	4	243053		Weld carbon steel work pieces using the oxy-acetylene gas welding process in all positions	Level 3	10	Equivalent
34	10848	EnM-G135	Replace liners in a transfer chute	2	2	10848	EnM-G135	Replace liners in a transfer chute	2	2	Equivalent - (SAQA NLRD number still valid)
35	10768	EnM-G030	Cut material by means of lancing	2	3	10768	EnM-G030	Cut material by means of lancing	2	3	Equivalent - (SAQA NLRD number still valid)

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	NLRD Ref No	MQA Ref No	Title	Level	Credits	NLRD Ref No	MQA Ref No	Title	Level	Credits	Comments
36						116520		Apply safety, health and environmental principles and procedures in a workplace	2	2	
37	12215		Read, interpret and produce basic engineering drawings	2	6	243075		Draw and interpret simple plate, pipe and structural steel plate, pipe and structural steel drawings	2	6	Equivalent
38						14713		Use welding definitions and symbols	2	5	
39						13234		Apply quality procedures	3	8	
40	10745	EnM-G012	Cut mild steel by means of an Oxy-acetylene cutting torch	2	3	243077		Cut material using the oxy-fuel pipe cutting device	3	3	Equivalent
41	10780	EnM-G042	Cut Mild steel by means of an Oxy-acetylene profile cutter	2	4	243080		Cut material using the oxy-fuel profile cutting machine	3	5	Equivalent
42	10781	EnM-G043	Cut Mild steel with Oxy-acetylene straight line cutter	2	4	243081	EnM-G043	Cut material using the oxy-fuel straight-line cutting machine	3	3	Equivalent
43	115568	EnM-G181	Develop and fabricate components by means of the parallel line method	3	11	115568	EnM-G181	Fabricate components by means of the parallel line method	3	4	Equivalent
44	10845	EnM-G075	Bend steel by means of a bending machine	2	3	12244		Form and shape sheet, plate, pipe and structural section using power machinery	3	15	Range: Must do both - EnM-G075 and EnM-G078
	10851	EnM-G078	Roll material by means of a plate rolling machine	2	5						
45	115571	EnM-G182	Develop and fabricate components by means of the radial line method	3	6	115571	EnM-G182	Fabricate components by means of the radial line method	3	4	Equivalent
46	115565	EnM-G180	Develop and fabricate components by means of the triangulation method	3	8	115565	EnM-G180	Fabricate components by means of the triangulation method	3	4	Equivalent
47		EnM-G176	Fabricate a steel pipe section using the contour marker method	2	9	244339		Mark off and fabricate sections using the contour marker method	3	9	Equivalent
48	10849	EnM-G077	Punch and shear material by means of a punch and shearing machine	2	3	12245		Mechanically cut, drill, punch and assemble fabrication materials using powered machinery	3	8	Range: Must do all - EnM-G076, EnM-G077, EnM-G100
		EnM-G100	Drill a hole by means of a radial arm or pedestal drilling machine	2	4						
	10847	EnM-G076	Cut material by means of a hydraulic or electric guillotine	2	2						
49						243061		Assemble work pieces in jigs (minor amendments include the use of manipulators)	2	3	
50	10808	EnM-G056	Braze metals by means of oxy-acetylene equipment	3	4	243069		Braze metals using the oxy-fuel brazing process	2	6	Equivalent
51	10780	EnM-G042	Cut Mild steel by means of an Oxy-acetylene profile cutter	2	4	10780	EnM-G042	Cut mild steel by means of an Oxy-acetylene profile cutter	2	4	Equivalent
52	10842	EnM-G074	Join cast iron by means of arc welding	2	3	10842	EnM-G074	Join cast iron by means of arc welding	2	3	Equivalent - (SAQA NLRD number still valid)
53	5739		Basic Rigging	2	4	12481		Sling loads	2	4	Equivalent
54						243076		Weld carbon steel work pieces using the cored-wire welding process in the down hand position	2	8	
55		EnM-G059	Join metals by means of metal inert gas (MIG) welding	3	6	243066		Weld carbon steel work pieces using the gas metal arc welding process in the down-hand position	2	8	Equivalent
56	10762	EnM-G024	Join mild steel by means of arc welding	2	11	243056		Weld carbon steel work pieces using the shielded metal arc welding process in all positions	2	16	Equivalent
57		EnM-G198	Level a steel structure using a dumpy level	2	1	244343		Align a steel structure using a dumpy level	3	2	Equivalent
58						12246		Assemble and mechanically join sheet, plate, tube, pipe and steel sections	3	4	
59						12456		Explain and use organisational procedures	3	6	
60	115740	EnM-G195	Fabricate a launder	3	5	115740	EnM-G195	Fabricate a launder	3	5	Equivalent - (SAQA NLRD number still valid)
61	115744	EnM-G194	Fabricate a spiral by means of triangulation	3	5	115744	EnM-G194	Fabricate a spiral by means of triangulation	3	5	Equivalent - (SAQA NLRD number still valid)
62	10851	EnM-G078	Roll material by means of a plate rolling machine	2	5	115699	EnM-G078	Fabricate rolled sections	3	6	Equivalent
63						244346		Layout and fabricate a metal structure	3	5	
64						9526		Manage basic business finance	3	6	
65						9530		Manage work time effectively	3	3	
66		EnM-G179	Lift and move loads using an overhead crane (pendant/remote control)	3	2	8039		Operating cranes	3	10	Equivalent
67						8038		Operating lift trucks	3	6	
68	10812	EnM-G061	Gouge metals by means of an arc welding machine	2	2	14695	EnM-G061	Remove material with the shields metal arc gouging process	3	8	Equivalent
69	10790	EnM-G048	Silver solder metals by means of Oxy-acetylene equipment	3	3	10790	EnM-G048	Silver solder metals by means of Oxy-acetylene equipment	3	3	Equivalent - (SAQA NLRD number still valid)
70						243068		Weld carbon steel work pieces using the gas tungsten arc welding process in the down hand position	3	15	
71	10789	EnM-G047	Weld mild steel by means of Oxy-acetylene equipment	3	4	10789	EnM-G047	Weld mild steel by means of Oxy-acetylene equipment	3	4	Equivalent - (SAQA NLRD number still valid)
72		EnM-G177	Cut metal by means of plasma cutter	2	3	14698		Cut materials using plasma cutting	4	4	Equivalent
73						243065		Weld carbon steel pipe using the gas metal arc welding process in all positions	4	20	
74						243062		Weld carbon steel pipe, using the shielded metal arc welding process in all positions	4	20	
75						12457		Develop learning strategies and techniques	3	3	
76	115699	EnM-G183	Fabricate radial door, liner and flat bar ring	3	4	115699	EnM-G183	Fabricate radial door, liner and flat bar ring	3	4	Equivalent - (SAQA NLRD number still valid)
77	10783	EnM-G044	Join aluminium by means of arc welding	3	5	10783	EnM-G044	Join aluminium by means of arc welding	3	5	Equivalent - (SAQA NLRD number still valid)

NATIONAL FETC IN ENGINEERING FABRICATION

List	Old Unit Standards					New revised Unit Standards registered 2008					
	NLRD Ref No	MQA Ref No	Title	Level	Credits	NLRD Ref No	MQA Ref No	Title	Level	Credits	Comments
78						116714		Lead a team, plan, allocate and assess their work	3	4	
79						244341		Perform heat manipulation processes on plate, pipe and structural materials	3	4	
80						13254		Contribute to the implementation and maintenance of business processes	4	10	
81						12253		Cut, drill and punch, assemble and mechanically join structural steel work	4	24	
82						12252		Develop and fabricate from complex drawings	4	28	
83						13275		Perform heat treatment processes on engineering metals	3	8	
84						13260		Perform non-destructive tests on metal parts and components	3	6	
85						12814		Remove metals using air-carbon arc gouging processes	3	4	
86						243052		Weld carbon steel work pieces using the cored-wire welding process in all positions	3	8	
87	10810	EnM-G057	Join metals by means of tungsten inert gas (TIG) welding	3	6	243058		Weld carbon steel work pieces using the gas tungsten arc welding process in all positions	3	25	Equivalent
88	10810	EnM-G057	Join metals by means of tungsten inert gas (TIG) welding	3	6	243068		Weld carbon steel work pieces using the gas tungsten arc welding process in the down hand position	3	15	Equivalent
89						114194		Demonstrate understanding of regulations codes and drawing office practices for structural steel detailing	4	7	
90						14473		Develop and produce computer aided drawings	4	4	
91						14492		Identify, interpret and produce working piping drawings	4	6	
92						243054		Weld carbon steel pipe, using the gas tungsten arc welding process in all positions	4	20	
93	10785	EnM-G045	Join aluminium by means of Oxy-acetylene equipment	3	4	10785	EnM-G045	Join aluminium by means of Oxy-acetylene equipment	3	4	Equivalent - (SAQA NLRD number still valid)
94						115745		Butt-weld a pipe in position	3	9	