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Teaching & Learning Template: Plumbing by Learning Type and Style

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Integration Framework for College of Trades Curriculum and Ministry Standards

Teaching & Learning Template

Plumbing by Learning Type and Style

_	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
hip i	Essential Employability Skills	Plumber Level One	
Leadership in Learning	. , ,	S00021.0 Workplace Safety, Rigging and	Vocational Learning Outcomes
Lea	Skill Category - Defined	Hoisting	<u> </u>
	Communication	21.1 - Codes, Acts & Regulations	
	Reading	_	1Complete all work in compliance with
	 Writing 	21.4 - Control Hazards	current legislation, standards, regulations and guidelines.
	• Speaking	21.9 - Read and Interpret Specifications &	7Interpret, prepare & modify mechanical
و	Listening	Shop Drawings	drawings & other related technical
nctrii	• Presenting	21.18- Communicate through the lift	documents.
Stri	Visual literacy Numeracy		
nitive	 Understanding & applying math 		
Cogr	concepts & reasoning		
tive	Analyzing & using numerical data		
Directive Cognitive Structure	Conceptualizing Information Management		
J	Gathering & managing information		2Apply quality control and quality
	 Selecting & using appropriate tools & 	21.6 – Lock out & tagging procedures	assurance procedures to meet organizational standards and requirements.
	technology for a task or a project	21.16 – Plan to perform the lift	10-Contribute to the planning,
	Computer literacy		implementation & evaluation of projects
	 Internet skills Critical Thinking & Problem Solving 	24.2. Daniel a Constantina	
	Analyzing	21.3 - Recognize & assess hazardous	2Apply quality control and quality
	Synthesizing	conditions	assurance procedures to meet organizational standards and requirements.
ition	Evaluating	21.10 - Inspect the job site	3Comply with current health & safety
Cogn	Decision making	21.11 - Determine the required equipment	legislation, as well as organizational
eta-(Creative & innovative thinking	21.13 – Inspect the rigging	practices & procedures.
Participative Meta-Cognition	Personal		
pativ	Managing self		
artici	 Managing change & being flexible & adaptable 	21.2 Personal Protective Equipment	
Pa	 Engaging in reflective practices 		
	Demonstrating personal		
	responsibility		
	Interpersonal Teamwork		2Apply quality control & quality assurance
Supportive Collaborative	TeamworkRelationship management	21.12 - Schedule the lift	procedures to meet organizational
Supportive ollaborativa	Conflict resolution	21.15 - Secure the hoisting area	standards & requirements.
Sup	Leadership		3Comply with current health & safety legislation, as well as organizational
	Networking		practices & procedures.
		21.5 – Work Platforms	8Perform technical measurements
>		21.7 - Operate and maintain tools	accurately using appropriate instruments &
e-Pla	Physical Literacy	21.8 – Perform Housekeeping Duties	equipment
Achievement Role-Play	Performance activity or task	21.14 – Connect the equipment to the	9Manufacture, assemble, maintain & repair mechanical components according to
nent	Knowledge utilization	rigging	required specifications.
even	Tactic and kinetic	21.17 – Position, secure & disconnect the	11Select, use & maintain machinery, tools
Achi		load	& equipment for the installation,
4		21.19 - Remove and store the rigging	manufacturing & repair of basic mechanical components
			Components

_	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
Leadership in Learning	Essential Employability Skills	Plumber Level One	
Leadershi Learning		S00022.0 Plumbing Systems – Pipe & Fitting Materials,	Vocational Learning Outcomes
Lea	Skill Category - Defined	Pipe Supports and Hangers (1-12)	
		22.1 – Steel Pipe & Fittings	
		22.2 – Cast Iron Soil Pipe & Fittings	
		22.3 – ABS Plastic Pipe & Fittings	
		22.4 – PVC Plastic Pipe & Fittings	
	Communication	22.5 – CPVC Plastic Pipe & Fittings	
	Communication Reading	22.6- Polyethylene Plastic Pipe & Fittings	
	Reading Writing	22.7 – Cross-linked Polyethylene/Aluminium/Cross-linked	
	Speaking	Polyethylene (PEX/AL/PEX) Composite Pipe & Cross-	
	Listening	linked Polyethylene Plastic Pipe and Fittings	
ure	Presenting	22.8 – Polyethylene/Aluminium/Polyethylene (PE/AL/PE)	
ruct	Visual literacy	Composite Pipe & Polypropylene (PP-R) Pipe & Fittings	
ve St	•	22.9 – Copper Pipe and Fittings	
gniti		22.10 – Glass Pipe & Fittings	
e Co		22.11 – Pipe Supports & Hangers	
Directive Cognitive Structure		22.12 – Joining Dissimilar Materials	
Dire	Numeracy	22.12 Johnnig Dissimilar Materials	
	Understanding & applying math concepts &		
	reasoning		
	Analyzing & using numerical data		
	Conceptualizing Information Management		
	Gathering & managing information		
	 Selecting & using appropriate tools & 		
	technology for a task or a project		
	Computer literacy		
	Internet skills Critical Thinking & Problem Solving		
	Analyzing		
ioi	Synthesizing		
gnit	Evaluating		
ta-C	Decision making		
Met	Creative & innovative thinking		
Participative Meta-Cognitior	Personal		
ticip	Managing self		
Par	Managing change & being flexible & adaptable		
	Engaging in reflective practices		
	Demonstrating personal responsibility Interpersonal		
e e	Teamwork		
ortive	Relationship management		
Supportive Collaborative	Conflict resolution		
Solo	● Leadership		
	Networking		
ent	Physical Literacy		
chievemer Role-Play	Performance activity or task		
Achievement Role-Play	Knowledge utilization		
Α	Tactic and kinetic		
		Do as 2 of 22	

<u>.</u> <u>.</u>	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
Leadership in Learning	Essential Employability Skills	Plumber Level One	
ader Lear		S00022.0 Plumbing Systems – Drainage Systems (13-	Vocational Learning Outcomes
ľ	Skill Category - Defined	25)	
		22.13 – Drainage Terms and Definitions	
		22.14 – Cleanouts and Locations	
		22.15 – Prohibited Fittings and Connections	
		22.16 – Purpose of a Drain Plan	
	Communication	22.17 – How to Draw a Drain Plan	
	Reading	22.18 – Foundation Drains	
	Writing	22.19 – Floor Drains	
	SpeakingListening	22.20 – Hub Drains and Funnel Floor Drains	
ıre	ListeningPresenting	22.21 – Trap Seal Primers	
ructu	Visual literacy	22.22 – Trap Seal Filliers 22.22 – Drain System Design	
e Stı	Visual interacy		
nitiv		22.23 – Building Traps	
Cog		22.24 – Purpose of a Stack Elevation	
tive		22.25 – How to Draw a Stack Elevation	
Directive Cognitive Structure	Numeracy		
	 Understanding & applying math concepts & reasoning 		
	Analyzing & using numerical data		
	Conceptualizing		
	Information Management		
	Gathering & managing information		
	 Selecting & using appropriate tools & technology for a task or a project 		
	Computer literacy		
	 Internet skills 		
	Critical Thinking & Problem Solving		
_	 Analyzing 		
Cognition	 Synthesizing 		
Cogr	Evaluating		
leta-	Decision making		
Ve ≥	Creative & innovative thinking Personal		
Participative Meta	Managing self		
artic	Managing change & being flexible & adaptable		
ď	 Engaging in reflective practices 		
	 Demonstrating personal responsibility 		
	Interpersonal		
ve	 Teamwork 		
ortiv	Relationship management		
Supportive Collaborative	Conflict resolution		
. 3	• Leadership		
	Networking		
nent ay	Physical Literacy		
chievemer Role-Play	Performance activity or task		
Achievement Role-Play	Knowledge utilization Tactic and kinetic		
	Tactic and kinetic		

_	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
Leadership in Learning	Essential Employability Skills	Plumber Level One	
ders		S00022.0 Plumbing Systems – Waste Pipe	Vocational Learning Outcomes
Lea	Skill Category - Defined	Systems (26-31)	į
	Communication		
	Reading	22.26 – Traps and Types	
	Writing	22.27 – Trap Sizing	
	Speaking	22.28 – Trap Seal Loss	
е	 Listening 	22.29 – Fixture Drain Requirements	
ıctur	Presenting	·	
Stru	Visual literacy Numeracy		
Directive Cognitive Structure	Understanding & applying math		
Cogn	concepts & reasoning		
ive (Analyzing & using numerical data 		
irect	Conceptualizing Information Management		
	Gathering & managing information		
	Selecting & using appropriate tools &		
	technology for a task or a project		
	Computer literacy		
	Internet skills		
	Critical Thinking & Problem Solving		2Apply quality control and quality
	Analyzing Synthesizing		assurance procedures to meet
tion	SynthesizingEvaluating	22.30 – Sanitary Drain System Sizing	organizational standards and requirements.
ogni	Decision making		10Contribute to the planning,
ta-C	Creative & innovative thinking		implementation & evaluation of projects
Participative Meta-Cognition	Personal		
ative	Managing self		
ticip	Managing change & being flexible &		
Paı	adaptable Engaging in reflective practices		
	Engaging in reflective practicesDemonstrating personal		
	responsibility		
	Interpersonal		
ve tive	Teamwork -		
Supportive Collaborative	Relationship management		
Supp	• Conflict resolution		
O	LeadershipNetworking		
	Networking		
Role	Physical Literacy		8Perform technical measurements accurately using appropriate instruments &
ent ay	Performance activity or task	22.31 – Grading Waste Pipes	equipment
vemen [.] Play	Knowledge utilization	22.32 Grading waster ipes	9Manufacture, assemble, maintain &
Achievement Role- Play	Tactic and kinetic		repair mechanical components according to required specifications.
< −			required specifications.

andard
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<u>.</u>	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
Leadership in Learning	Essential Employability Skills	Plumber Level One	
ader		S00022.0 Plumbing Systems – Codes,	Vocational Learning Outcomes
Le	Skill Category - Defined	Regulations & Standards (40)	, and the second
	Communication		
	 Reading 		
	Writing		
	 Speaking 	22.40 Code, Regulations & Standards	1Complete all work in compliance with current legislation, standards, regulations and
	 Listening 		guidelines.
-	Presenting		
ture	Visual literacy		
truc	Numeracy		
ve S	 Understanding & applying math 		
gniti	concepts & reasoning		
Directive Cognitive Structure	Analyzing & using numerical data		
ctive	Conceptualizing Information Management		
Dire	Gathering & managing		
	information		
	 Selecting & using appropriate 		
	tools & technology for a task or a		
	Computer literacy		
	Computer literacyInternet skills		
	Critical Thinking & Problem Solving		
	Analyzing		
_	Synthesizing		
itior	Evaluating		
Cogn	Decision making		
eta-C	Creative & innovative thinking		
Participative Meta-Cognition	Personal		
ativo	Managing self		
ticip	Managing change & being		
Par	flexible & adaptable		
	 Engaging in reflective practices 		
	Demonstrating personal responsibility		
	Interpersonal		
Supportive Collaborative	Teamwork		
	Relationship management		
	Conflict resolution		
	Leadership		
	 Networking 		
nt	Physical Literacy		
eme Play	Performance activity or task		
Achievement Role-Play	Knowledge utilization		
Acl	Tactic and kinetic		
		l .	1

Leadership in Learning	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
adera	Essential Employability Skills	Plumber Level One	
in I	Skill Category - Defined	S00023.0 Tools & Piping Methods	Vocational Learning Outcomes
Directive Structure	Skill Category - Defined Communication Reading Writing Speaking Listening Presenting Visual literacy Numeracy Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing Information Management Gathering & managing information	23.1 – Measuring Tools & Instruments 23.7 – Build Piping Projects Incorporating Different Offsets	6Analyze & solve mechanical problems by applying mathematics & fundamentals of mechanics.
Participative Meta-Cognition	 Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices 		
Supportive Collaborative	 Demonstrating personal responsibility Interpersonal Teamwork Relationship management Conflict resolution Leadership Networking 		
Achievement Role-Play	Physical Literacy Performance activity or task Knowledge utilization Tactic and kinetic	23.2 – Identify & Use Various Hand Tools 23.3 – Identify & Use Various Power Tools 23.4 – Steel Pipe Joining Methods 23.5 – Cast Iron Pipe Joining Methods 23.6 – Copper Pipe Joining Methods	8Perform technical measurements accurately using appropriate instruments & equipment 9Manufacture, assemble, maintain & repair mechanical components according to required specifications. 11Select, use & maintain machinery, tools & equipment for the installation, manufacturing & repair of basic mechanical components

Leadership in Learning	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
aders earr	Essential Employability Skills	Plumber Level One	
in Le	Skill Category - Defined	S00024.0 Trade Calculations	Vocational Learning Outcomes
Directive Cognitive Structure	Communication Reading Writing Speaking Listening Presenting Visual literacy Numeracy Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing	24.1 – Basic Math 24.2 – Conversions of SI to Imperial and U.S. Values 24.3 – Linear Measurements 24.4 – Calculation of Various Offsets 24.5 – Square Roots	2Apply quality control and quality assurance procedures to meet organizational standards and requirements. 6Analyze & solve mechanical problems by applying mathematics & fundamentals of mechanics.
	Information Management Gathering & managing information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing		
Participative Meta-Cognition	 Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal 		
Supportive Collaborative	responsibility Interpersonal Teamwork Relationship management Conflict resolution Leadership Networking		
Achievement Role-Play	Physical Literacy Performance activity or task Knowledge utilization Tactic and kinetic		

Leadership in Learning	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
ders earn	Essential Employability Skills	Plumber Level One	
Lea in L	Skill Category - Defined	S00025.0 Trade Documentation	 Vocational Learning Outcomes
Directive Cognitive Structure	Communication Reading Writing Speaking Listening Presenting Visual literacy Numeracy Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing Information Management Gathering & managing information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills	25.1 – Identify and Use Various Drafting Instruments 25.2 – Identify and Draw Various Projection Drawings 25.3 – Identify and Interpret Construction Drawings	2Apply quality control and quality assurance procedures to meet organizational standards and requirements. 7Interpret, prepare & modify mechanical drawings & other related technical documents 8Perform technical measurements accurately using appropriate instruments & equipment
Participative Meta-Cognition	Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility		
Supportive Collaborative	Interpersonal Teamwork Relationship management Conflict resolution Leadership Networking	25.4 – Demonstrate Effective Interpersonal Relations 25.5 – Receive & React to Instructions	1Complete all work in compliance with current legislation, standards, regulations and guidelines.
Achievement Role-Play	 Physical Literacy Performance activity or task Knowledge utilization Tactic and kinetic 		

Leadership in Learning	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
der:	Essential Employability Skills	Plumber Level One	
in I	Skill Category - Defined	S00026.0 Welding	Vocational Learning Outcomes
Directive Cognitive Structure	Communication Reading Writing Speaking Listening Presenting Visual literacy Numeracy Understanding & applying math concepts & reasoning	26.3 – Oxy-Acetylene Welding Principles	
Directive Cogn	Analyzing & using numerical data Conceptualizing Information Management		
Participative Meta-Cognition	Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility		
Achievement Role-Play Collaborative	Interpersonal Teamwork Relationship management Conflict resolution Leadership Networking Physical Literacy Performance activity or task Knowledge utilization	26.1 – Oxy-Acetylene Cutting and Welding Equipment and Accessories 26.2 – Oxy-Acetylene Cutting Theory, Cutting and Welding Safety Requirements	8Perform technical measurements accurately using appropriate instruments & equipment 9Manufacture, assemble, maintain & repair mechanical components according to required specifications.
Achieven	Tactic and kinetic	26.4 – Lay Down Beads, Prepare, Tack & Weld a Butt Joint	11Select, use & maintain machinery, tools & equipment for the installation, manufacturing & repair of basic mechanical components

Essential Employability Skills Plumber Level Two	. <u>s</u>	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
Communication Reading Writing Speaking Speaking Uistening Uisual literacy Numeracy Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing Information Management Gathering & managing Information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Evaluating Decision making Creative & innovative thinking Personal Managing self Managing self Managing self Managing self Managing self Managing self Engaging in reflective practices Demonstrating personal responsibility Interpersonal	ship ning		Plumber Level Two	
Communication Reading Writing Speaking Speaking Uistening Uisual literacy Numeracy Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing Information Management Gathering & managing Information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Evaluating Decision making Creative & innovative thinking Personal Managing self Managing self Managing self Managing self Managing self Managing self Engaging in reflective practices Demonstrating personal responsibility Interpersonal	ader Lear		S00027.0 Plumbing Systems – Pipe & Fitting	Vocational Learning Outcomes
Reading Writing Speaking Speaking Visual literacy Numeracy Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing Gathering & managing information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Synthesizing Synthesizing Synthesizing Synthesizing Managing self Managing self Managing self Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal Interpersonal	Lea	Skill Category - Defined	Materials, Pipe Supports and Hangers (1-2)	g state of
Writing 27.1 – Drilling & Notching 27.2 – Sleeving 27.2 – Slee		Communication		
Writing 27.1 – Drilling & Notching 27.2 – Sleeving 27.2 – Slee		Reading		
Speaking Listening Visual literacy Numeracy Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing Information Management Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal		● Writing	27.1 Drilling & Notching	
Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing Information Management Gathering & managing information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal		Speaking		
Visual literacy			27.2 – Sieeving	
information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal	a	 Presenting 		
information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal	ctur	Visual literacy		
information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal	Stru			
information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal	gnitive			
information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal	ive Cog	Conceptualizing		
information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal	irect			
tools & technology for a task or a project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal	D			
project Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal				
Computer literacy Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal				
Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal				
Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal				
Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal		Critical Thinking & Problem Solving		
Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility Interpersonal		 Analyzing 		
 Engaging in reflective practices Demonstrating personal responsibility Interpersonal 	uc	 Synthesizing 		
 Engaging in reflective practices Demonstrating personal responsibility Interpersonal 	gnitio	 Evaluating 		
 Engaging in reflective practices Demonstrating personal responsibility Interpersonal 	-C0g			
 Engaging in reflective practices Demonstrating personal responsibility Interpersonal 	Meta			
 Engaging in reflective practices Demonstrating personal responsibility Interpersonal 	ive l			
 Engaging in reflective practices Demonstrating personal responsibility Interpersonal 	cipat			
 Engaging in reflective practices Demonstrating personal responsibility Interpersonal 	Partio			
responsibility Interpersonal	_	 Engaging in reflective practices 		
Interpersonal				
Relationship management Conflict resolution	Supportive Collaborative			
Some Some Some Some Some Some Some Some		Relationship management		
		Conflict resolution		
S O D Leadership		Leadership		
● Networking		 Networking 		
Physical Literacy	int	Physical Literacy		
Performance activity or task	eme Play	Performance activity or task		
Physical Literacy Performance activity or task Knowledge utilization Tactic and kinetic	hiev ?ole-	Knowledge utilization		
Tactic and kinetic	Ac	Tactic and kinetic		

.⊑	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
adership Learning	Essential Employability Skills	Plumber Level Two	
Leadership in Learning	Skill Category - Defined	S00027.0 Plumbing Systems – Drainage Systems (3-5)	Vocational Learning Outcomes
	Communication		
	• Reading		
	• Writing	27.3 – Drainage Terms & Definitions	
	• Speaking	27.4 – Sanitary & Storm System Design	
	Listening		
ure	• Presenting		
ruct	Visual literacy Numeracy		
nitive St	 Understanding & applying math concepts & reasoning 	27.5 – Datum Line and Instrument Reading	6Analyze & solve mechanical problems by applying mathematics & fundamentals of
Directive Cognitive Structure	Analyzing & using numerical data Conceptualizing		mechanics.
rect	Information Management		
iΩ	 Gathering & managing information 		
	 Selecting & using appropriate tools & technology for a task or a project 		
	Computer literacy		
	 Internet skills 		
	Critical Thinking & Problem Solving		
	 Analyzing 		
E	Synthesizing		
nitic	Evaluating		
-Cog	Decision making		
/leta	Creative & innovative thinking		
ive N	Personal Managing self		
Participative Meta-Cognition	Managing change & being		
Pa	flexible & adaptable Figging in reflective practices		
	Engaging in reflective practicesDemonstrating personal		
	responsibility		
Supportive Collaborative	Interpersonal		
	Teamwork		
	Relationship management		
	Conflict resolution		
	Leadership		
	Networking		
ient iy	Physical Literacy		
chievemer Role-Play	Performance activity or task		
Achievement Role-Play	Knowledge utilization		
< <	Tactic and kinetic		

Ξ	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
Leadership in Learning	Essential Employability Skills	Plumber Level Two	
		S00027.0 Plumbing Systems – Waste Pipe	Vocational Learning Outcomes
Le	Skill Category - Defined	Systems (6-11)	
	Communication	27.7 Carres Intercentors	
	Reading	27.7 – Grease Interceptors	
	Writing	27.8 – Oil Interceptors	
	Speaking	27.9 – Sediment Interceptors	
	 Listening 	27.10 – Blow Down & Blow Off Tanks	
ıre	Presenting	27.11 – Ejectors & Sumps	
uctu	Visual literacy		
e Str	Numeracy Understanding & applying math		
nitiv	concepts & reasoning		
Directive Cognitive Structure	 Analyzing & using numerical data Conceptualizing 		
irect	Information Management		
Ö	 Gathering & managing information 		
	 Selecting & using appropriate tools & technology for a task or a 		
	project		
	Computer literacy		
	 Internet skills 		
	Critical Thinking & Problem Solving		
	 Analyzing 		2Apply quality control and quality assurance procedures to meet organizational standards
e G	Synthesizing	27.6 – Commercial Sanitary Drain System Sizing	and requirements.
gniti	Evaluating		10Contribute to the planning, implementation
a-Co	Decision making		& evaluation of projects
Meta	Creative & innovative thinking Personal		
tive	Managing self		
Participative Meta-Cognition	Managing change & being flexible & adaptable		
Pa	Engaging in reflective practices		
	Demonstrating personal		
	responsibility		
	Interpersonal		
ve	● Teamwork		
oorti	Relationship management -		
Supportive Collaborative	Conflict resolution		
	• Leadership		
	Networking		
nent ay	Physical Literacy Performance activity or tack		
Achievement Role-Play	Performance activity or task Knowledge utilization		
Achie	Knowledge utilization Tactic and kinetic		
1	Tactic and kinetic		

Standard Essential Employability Skills Plumber Level Two S00027.0 Plumbing Systems – Venting Systems (12-16) Communication Reading Writing Speaking Speaking Listening Presenting	Program Standard
Communication Reading Writing Speaking Listening Proceeding 27.13 – Wet Venting 27.14 – Vent Stacks 27.15 – Circuit Vent	
Communication Reading Writing Speaking Listening Proceeding 27.13 – Wet Venting 27.14 – Vent Stacks 27.15 – Circuit Vent	comes
Reading Writing Speaking Listening Proceeding Reading 27.13 – Wet Venting 27.14 – Vent Stacks 27.15 – Circuit Vent	
 Writing Speaking Listening Presenting 27.13 – Wet Venting 27.14 – Vent Stacks 27.15 – Circuit Vent	
● Writing ■ Speaking ■ Listening ■ Proceeding 27.13 – Wet Venting 27.14 – Vent Stacks 27.15 – Circuit Vent	
Listening 27.15 – Circuit Vent	
Procenting	
⊕ Presenting	
ੈ Usual literacy Visual literacy	
Numeracy Numeracy	
Understanding & applying math concepts & reasoning	
Visual literacy Numeracy Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing Information Management Office of the right & managing	
Information Management	
Gathering & managing information	
Selecting & using appropriate	
tools & technology for a task or a project	
Computer literacy	
• Internet skills	
Critical Thinking & Problem Solving	
Analyzing 27.12 – Branch Vents 27.12 – Branch Vents 27.12 – Branch Vents	
Synthesizing 27.16 – Yoke, Auxiliary Stacks, & Offset Relief and requirements.	anizational standards
Evaluating Vents 10Contribute to the pl	anning, implementation
Decision making & evaluation of projects	
Creative & innovative thinking	
Personal Managing self	
Managing self	
Synthesizing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices	
Engaging in reflective practices	
Demonstrating personal responsibility	
Interpersonal	
Relationship management	
Relationship management Conflict resolution	
S S D Leadership	
● Networking	
Physical Literacy	
© Performance activity or task Performance activity or task	
Physical Literacy Performance activity or task Knowledge utilization Tactic and kinetic	
Tactic and kinetic	

Ë	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
ship	Essential Employability Skills	Plumber Level Two	
Leadership in Learning		S00027.0 Plumbing Systems – Water	Vocational Learning Outcomes
Lea	Skill Category - Defined	Distribution Systems (17-23)	
	Communication		
	 Reading 	27.17 – Types of Valves	
	Writing	27.18 – Location of Valves	
	 Speaking 	27.19 – Water Distribution Terms & Definitions	
	Listening	27.21 – Hot Water Thermostatic Mixing Valves	
	Presenting	27.22 – Temperature & Pressure relief Valves 27.23 – Water Meters	
ture	Visual literacy	27.23 Water Meters	
truc	Numeracy		
nitive S	 Understanding & applying math concepts & reasoning 		
Directive Cognitive Structure	 Analyzing & using numerical data Conceptualizing 		
rect	Information Management		
ΙΟ	Gathering & managing information		
	 Selecting & using appropriate 		
	tools & technology for a task or a project		
	Computer literacy		
	Internet skills		
	Critical Thinking & Problem Solving		
	 Analyzing 		
_	 Synthesizing 		
nitio	 Evaluating 		
Cogr	Decision making		
eta-(Creative & innovative thinking		
ē Σ	Personal		
oativ	Managing self		
Participative Meta-Cognition	 Managing change & being flexible & adaptable 		
	 Engaging in reflective practices 		
	Demonstrating personal		
	responsibility Interpersonal		
O	Teamwork		
Supportive Collaborative	Relationship management		
Supportive	Conflict resolution		
Su	 Leadership 		
	Networking		
ıt	Physical Literacy		
emer	Performance activity or task		
Achievement Role-Play	Knowledge utilization		
Act	Tactic and kinetic		

. <u>e</u>	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
Leadership in Learning	Essential Employability Skills	Plumber Level Two	
der		S00027.0 Plumbing Systems – Plumbing	Vocational Learning Outcomes
Lea	Skill Category - Defined	Fixtures, Appliances & Equipment (24- 26)	
	Communication		
	Reading	27.24 Diversity of Findance	
	Writing	27.24 – Plumbing Fixtures	
	Speaking	27.25 – Faucets & Shower Control Valves	
	Listening	27.26 – Water Closets, Urinals, Flush Tanks, &	
	Presenting	Flushometers	
ure	Visual literacy		
ıruct	Numeracy		
ve St	 Understanding & applying math 		
gniti	concepts & reasoning		
Directive Cognitive Structure	 Analyzing & using numerical data Conceptualizing 		
irect	Information Management		
O	Gathering & managing information		
	Selecting & using appropriate		
	tools & technology for a task or a project		
	Computer literacy		
	Internet skills		
	Critical Thinking & Problem Solving		
	 Analyzing 		
_	 Synthesizing 		
itio	 Evaluating 		
Cogr	Decision making		
eta-(Creative & innovative thinking		
e Z	Personal		
oativ	Managing self		
Participative Meta-Cognition	Managing change & being flexible & adaptable		
Pa	Engaging in reflective practices		
	Demonstrating personal		
	responsibility		
Supportive Collaborative	Interpersonal		
	Teamwork		
	Relationship management		
upp	Conflict resolution		
8 3	Leadership		
	 Networking 		
ent V	Physical Literacy		
reme -Play	Performance activity or task		
Achievement Role-Play	 Knowledge utilization 		
AC	Tactic and kinetic		

Leadership in Learning	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
aders	Essential Employability Skills	Plumber Level Two	
Lea in L	Skill Category - Defined	S00027.0 Plumbing Systems – Codes (27-28)	Vocational Learning Outcomes
	Communication		
	Reading		
	Writing	27.27 – Testing Requirements	
	Speaking	27.28 – Required Inspection	
	Listening		
re	Presenting		
uctu	Visual literacy		
s Str	Numeracy		
nitive	 Understanding & applying math concepts & reasoning 		
Directive Cognitive Structure	 Analyzing & using numerical data Conceptualizing 		
ectiv	Information Management		
Dir	 Gathering & managing 		
	information		
	 Selecting & using appropriate tools & technology for a task or a 		
	project		
	Computer literacy		
	 Internet skills 		
	Critical Thinking & Problem Solving		
	 Analyzing 		
uo	 Synthesizing 		
gniti	Evaluating -		
δο ₋ τ	Decision making -		
Participative Meta-Cognition	 Creative & innovative thinking Personal 		
	Managing self		
cipat	Managing change & being		
Parti	flexible & adaptable		
	 Engaging in reflective practices 		
	Demonstrating personal		
	responsibility Interpersonal		
Supportive Collaborative	Teamwork		
	Relationship management		
	Conflict resolution		
	 Leadership 		
	Networking		
nt	Physical Literacy		
emer	 Performance activity or task 		
Achievement Role-Play	 Knowledge utilization 		
Act	Tactic and kinetic		
		<u> </u>	

. <u>c</u>	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
ship ning	Essential Employability Skills	Plumber Level Two	
Leadership in Learning	Skill Category - Defined	S00027.0 Plumbing Systems – Properties of Water (29-32)	Vocational Learning Outcomes
Directive Structure	Communication Reading Writing Speaking Listening Presenting Visual literacy Numeracy Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing Information Management Gathering & managing information Selecting & using appropriate tools & technology for a task or a project Computer literacy Internet skills	27.29 – Heat Transfer 27.30 – Latent & Sensible Heat 27.31 – British Thermal Units 27.32 – Properties of Water	6Analyze & solve mechanical problems by applying mathematics & fundamentals of mechanics.
Participative Meta-Cognition	Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal responsibility		
Achievement Supportive Role-Play Collaborative	Interpersonal Teamwork Relationship management Conflict resolution Leadership Networking Physical Literacy Performance activity or task Knowledge utilization Tactic and kinetic		

. <u>s</u>	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
Leadership in Learning	Essential Employability Skills	Plumber Level Two	
ader -ear	. , .	S00028.0 Drain Waste & Vent (DWV) Piping	Vocational Learning Outcomes
Lea	Skill Category - Defined	Systems	Totaliana zaariing aataariies
	Communication		
	 Reading 		
	Writing		
	Speaking		
	Listening		
a)	Presenting		
ture	Visual literacy		
Struc	Numeracy		
iitive S	 Understanding & applying math concepts & reasoning 		
Directive Cognitive Structure	Analyzing & using numerical data Conceptualizing		
recti	Information Management		
ΙO	Gathering & managing information		
	 Selecting & using appropriate tools & technology for a task or a 		
	project		
	Computer literacy		
	 Internet skills Critical Thinking & Problem Solving 		
	Analyzing		
	Synthesizing		
tion	Evaluating		
ogni	Decision making		
ta-C	Creative & innovative thinking		
Me	Personal		
ative	Managing self		
Participative Meta-Cognition	Managing change & being		
Par	flexible & adaptable		
	• Engaging in reflective practices		
	 Demonstrating personal responsibility 		
	Interpersonal		
ive ive	 Teamwork 		
Supportive Collaborative	Relationship management		
upp	Conflict resolution		
S	Leadership		
	Networking		
olay			8Perform technical measurements accurately using appropriate instruments & equipment
ole-F	Physical Literacy	28.1 – Design, Draw, Install & Test Various Drain,	9Manufacture, assemble, maintain & repair
it R	Performance activity or task	Waste, Vent, Storm, & Fixture Installations	mechanical components according to required
mer	Knowledge utilization	28.2 – Perform Various Services, Maintenance	specifications.
Achievement Role-Play	Tactic and kinetic	and Repairs Labs	11Select, use & maintain machinery, tools & equipment for the installation, manufacturing & repair of basic mechanical components
			repair of basic mechanical components

Leadership in Learning	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
ders earn	Essential Employability Skills	Plumber Level Two	
Lea in L	Skill Category - Defined	S00029.0 Trade Calculations	Vocational Learning Outcomes
	Communication		
	 Reading 		
	 Writing 		
	Speaking		
	 Listening 		
e	Presenting		
nctnı	Visual literacy	20 4 Avec Cele letters	
Stru	Numeracy	29.1 – Area Calculations	
itive	 Understanding & applying math concepts & reasoning 	29.2 – Surface Area Calculations	6Analyze & solve mechanical problems by applying mathematics & fundamentals of
Cogr	Analyzing & using numerical data	29.3 – Volume Calculations	mechanics.
ive (Conceptualizing	29.4 – Percentages and Ratios	
Directive Cognitive Structure	Information Management		
Ο	Gathering & managing information		
	Selecting & using appropriate		
	tools & technology for a task or a		
	project		
	Computer literacy		
	Internet skills		
	Critical Thinking & Problem Solving Analyzing		
	Synthesizing		
tion	Evaluating		
ogni	Decision making		
ta-C	Creative & innovative thinking		
Participative Meta-Cognition	Personal		
ative	Managing self		
ticip	Managing change & being		
Par	flexible & adaptable		
	Engaging in reflective practices		
	 Demonstrating personal responsibility 		
	Interpersonal		
ve ive	Teamwork		
Supportive Collaborative	Relationship management		
Supp	Conflict resolution		
, S	 Leadership 		
	Networking		
ient 37	Physical Literacy		
chievemer Role-Play	Performance activity or task		
Achievement Role-Play	Knowledge utilization		
∢	Tactic and kinetic		

thip	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
Leadership in Learning	Essential Employability Skills	Plumber Level Two S00030.0 Trade Documentation	Vocational Learning Outcomes
	Communication Reading Writing	30.1 – Read & Apply Information from Construction Drawings	1Complete all work in compliance with current legislation, standards, regulations and guidelines. 2Apply quality control and quality assurance procedures to meet organizational standards and requirements.
ture	SpeakingListeningPresentingVisual literacy	30.2 – Read & Interpret Job Specifications 30.3 – Produce Various Plumbing Drawings 30.6 – Write Job-Related Documents	6Analyze & solve mechanical problems by applying mathematics & fundamentals of mechanics. 7Interpret, prepare & modify mechanical
gnitive Struc	, in the second		drawings & other related technical documents. 10-Contribute to the planning, implementation & evaluation of projects
Directive Cognitive Structure	Numeracy Understanding & applying math concepts & reasoning Analyzing & using numerical data Conceptualizing		
	Information Management Gathering & managing information Selecting & using appropriate tools & technology for a task or a project Computer literacy		
Participative Meta-Cognition	Internet skills Critical Thinking & Problem Solving Analyzing Synthesizing Evaluating Decision making Creative & innovative thinking Personal Managing self Managing change & being flexible & adaptable Engaging in reflective practices Demonstrating personal		
Supportive Collaborative	responsibility Interpersonal Teamwork Relationship management Conflict resolution Leadership Networking	30.4 – Demonstrate Effective Interpersonal Relations 30.5. – Receive and React to Instructions	1Complete all work in compliance with current legislation, standards, regulations and guidelines.
Achievement Role-Play	Physical Literacy Performance activity or task Knowledge utilization Tactic and kinetic		

Leadership in Learning	Mechanical Technician Program Standard	Apprenticeship Curriculum Standard	Mechanical Technician Program Standard
der:	Essential Employability Skills	Plumber Level Two	
Lea in I	Skill Category - Defined	S00031.0 Welding	Vocational Learning Outcomes
	Communication Reading		
	Writing	31.1 – Arc Welding Theory, Terminology,	
	 Speaking 	Equipment, Procedures & Safety Precautions	
	 Listening 	Equipment, Procedures & Surety Precuations	
و	Presenting		
ıctuı	Visual literacy		
Stru	Numeracy		
gnitive	 Understanding & applying math concepts & reasoning 		
Directive Cognitive Structure	Analyzing & using numerical data Conceptualizing		
Direc	Information Management Gathering & managing		
	Gathering & managing information		
	 Selecting & using appropriate 		
	tools & technology for a task or a		
	project Computer literacy		
	Computer literacyInternet skills		
	Critical Thinking & Problem Solving		
	Analyzing		
ر	Synthesizing		
nitior	Evaluating		
Cogr	 Decision making 		
eta-	Creative & innovative thinking		
e N	Personal		
pativ	 Managing self 		
Participative Meta-Cognition	Managing change & being flexible & adaptable		
	 Engaging in reflective practices 		
	Demonstrating personal responsibility		
4)	Interpersonal Teamwork		
Supportive Collaborative	Relationship management		
Supportive	Conflict resolution		
Sup	Leadership		
	Networking		
			8Perform technical measurements accurately
Play			using appropriate instruments & equipment
tole-	Physical Literacy		9Manufacture, assemble, maintain & repair
nt R	Performance activity or task	31.2 – Arc Welding Procedures	mechanical components according to required
eme	Knowledge utilization -		specifications.
Achievement Role-Play	Tactic and kinetic		11Select, use & maintain machinery, tools & equipment for the installation, manufacturing & repair of basic mechanical components