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Training Organization Guide (ToG)
For
TVET CERTIFICATE IV in Plumbing Technology

MAY,2023

Part 1: Pedagogical organisation

1. Presentation of the training programme

1.1. The qualification

This qualification prepares individuals to integrate the Plumbing industry with the professionalization of Commercial Plumber, it also offers the opportunity to execute the works as hot water system installer, Water Distributor, Gas supply system installer, Water Pumping System Installer, firefighting system installer, Plumbing draft Man, Plumbing systems Welder, while ensuring that safety, security and environmental regulations are respected.

The areas of intervention for this occupation focus typically on Installation of water distribution networks, Fuel gas system installation, Firefighting system installation, Pumping system Installation, Hot water system installation, Basic technical drawing and AutoCAD, Plumbing basic welding, hardware services delivery and plumbing materials' store keeper within a factory. This contributes to the improvement of human health, sanitation, environment hygiene and the national economy.

1.2. Minimum Entry requirements

The minimum entry requirement to this qualification is to be physically and mentally capable with an interest in building construction and related areas.



Pathways into the qualification

Preferred pathways for candidates entering this qualification include:

- TVET Certificate III in
- Recognition of prior learning related to this qualification

Pathways from the qualification



Progression route of candidates achieving this qualification include:

- TVET Certificate V in Plumbing Technology A range of other related TVET Certificate V qualifications

2. The training programmes

2.1 Information about competencies

No	Code	Complementary competencies	Credit
1	CCMHE402	Safety, Health and Environment at the workplace	3
2	CCMBC402	Entrepreneurship	3
3	CCMEN402	English	3
4	CCMCL402	ICT	3
5	CCMKN402	Kinyarwanda	3
6	CCMFT402	Fran ç ais	3
	CCMKS402	Kiswahili	
8	CCMCT401	Citizenship	3
Total			24

No	Co-Curricular activities	Credit
1	Sports/Clubs	1
2	Self-study/Library Research	1
Total		2

	No	Code	Core competencies	Credit
GENERAL	1.	GENFA402	Applied Mathematics	6
	2.	GENMP402	Applied Physics	4
	3.	GENAC402	Applied Chemistry	3
	4.	PLTPW401	Plumbing basic welding	7
	5.	PLTTD401	Basic technical drawing and AutoCAD	11
SPECIFIC	6.	PLT WD 401	Installation of water distribution networks	10
	7.	PLTPGS 401	Fuel gas system installation	10
	8.	PLTFF 401	Firefighting system installation	10
	9.	PLTPS401	Pumping system Installation	9
	10.	PLTHW401	Hot water system installation	11
Total				81

3. Human resources

3.1.Trainers' qualifications and competences (Trainers' profile)

No.	Modules	Qualification	Field or Industry experience	Technical teaching experience	Language s skill	ICT skills.
1.	Installation of water distribution networks	A1/AO in water and sanitation Technology	1 year of working experience have A2 in Plumbing Technology is Mandatory	-No teaching experience required, -However, having any, experience in teaching will be an added -advantage.	Fluent in English; French is an added advantage	AutoCAD drawing design Microsoft word Microsoft excel Microsoft power point Internet exploration

		A1/A0 in irrigation and drainage technology	1 year of working experience. Have A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English; French is an added advantage	Microsoft word Microsoft excel Microsoft power point Internet exploration
2	Fuel gas system installation	A1/A0 in water and sanitation Technology	1 year of working experience Have A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English; French is an added advantage	Microsoft word Microsoft excel Microsoft power point Internet exploration

		A1/A0 in irrigation and drainage technology	1 year of working experience Have A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English; French is an added advantage	Microsoft word Microsoft excels Microsoft power point Internet exploration
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3	Firefighting system installation	A1/AO in water and sanitation Technology	1 year of working experience Having A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English; French is an added advantage	Microsoft word Microsoft excels Microsoft power point Internet exploration
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		A1 in irrigation and drainage technology	1 year of working experience Having A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value	Fluent in English; French is an added advantage	Microsoft word Microsoft excels Microsoft power point Internet exploration
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4	Pumping system Installation	✓ A1/AO in water and sanitation Technology	1 year of working experience Having A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English; French is an added advantage	Auto and arch CAD drawing design Microsoft word Microsoft excels Microsoft power point Internet exploration
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		A1 in irrigation and drainage technology	1 year of working experience Having A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English; French is an added advantage	Microsoft word Microsoft excels Microsoft power point Internet exploration
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5	Hot water system installation	A1/AO in water and sanitation technology	1 year of working experience Having A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English; French is an added advantage	Microsoft word Microsoft excels Microsoft power point Internet exploration
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		A1/A0 in irrigation and drainage	1 year of working experience Having A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English; French is an added advantage	Auto and arch CAD drawing design Microsoft word Microsoft excels Microsoft power point Internet exploration
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6	Plumbing basic welding	A1/AO in water and sanitation technology	1 year of working experience Having A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English; French is an added advantage	Microsoft word Microsoft excels Microsoft power point Internet exploration
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		A1/A0 in irrigation and drainage Technology	1 year of working experience Having A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English; French is an added advantage	Auto and arch CAD drawing design Microsoft word Microsoft excels Microsoft power point Internet exploration
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7	Basic technical drawing and AutoCAD	A1/AO in civil Engineering	0 year of working experience Having A2 in plumbing Technology is a Mandatory	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English. Fluent in French and Kinyarwanda are added values.	Computer literacy MS word MS excel PPT Internet AutoCAD & Arch CAD
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		A1/A0 in water and sanitation technology	0 year of working experience. Having A2 in Plumbing Technology	Pedagogical training in TVET (RTTI Training) is an added value.	Fluent in English. Fluent in French and Kinyarwanda are added values.	Computer literacy MS word MS excel PPT Internet AutoCAD & Arch CAD
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Part 2: Resources organisation

1. Material Resources

1.1. Category 1: Machines, equipment, and accessories

Name and description	Specifications	Quantity	Type of room	Module code
1. Arc welding machine	Brand: Makita Model: Arc 400i Welding Current Range: 60-400A. Power Consumption: 16 kVA. Phase: 3 Phase. Working Voltage: 400 +- 15% Duty Cycle: 310A@100%	5	Workshop	PLTWD40 PLTPS401 PLTFF401 PLTHW401 PLTWD401
2. Drilling machine	Drilling capacity in steel (of 600 MPa tensile strength): Ø 50 mm or more Tapping in steel: M 48 or more Taper in spindle nose: Morse Taper-5 Spindle speed range: 16-800 RPM (approx) Spindle feed range: 0.05 to 0.5 mm/rev (approx) Distance of spindle axis from column	5	workshop	PLTWD401 PLTGS401 PLTPS401 PLTPW401 PLTFF401 PLTHW401 PLTWD401

	surface with spindle in: 1200 to 2000 mm (approx.) Distance between spindle face & floor level: 300 to 1500 mm(approx.) (with spindle retracted and in vertical position) (a) Vertical travel of spindle: 300 mm or more (b) Vertical travel of arm(motorized).: 1200 mm approx. Rotation of arm around column: 360 Degree Angle of Drill Head Rotation: 360 Degree Power of spindle motor: 3.7 KW or more Horizontal traverse of arm (motorized): 600 mm Column traverse along bed (motorized): 1000 mm (approx.)			
3. Threading machine	Nominal Pipe Capacity 1/4"-2" (6mm-100mm) @ 36 RPM, 2-1/2"-4" (65mm-100mm) @ 12 RPM, 4"-6" (100mm-150mm) with 161 Geared Threader. Motor Control: Reverse/off/forward, heavy-duty rotary-type and integral foot switch.	1	workshop	PLTGS401 PLTPS401 PLTFF401 PLTHW401 PLTWD401

4. Black/white board	1800mm x 1200mm (with 10 set of non-toxic ease wipe marker white board ,low odor, black and red; one set equal to 10pcs)	5	workshop	PLTGS401 PLTPS401 PLTFF401 PLTHW401 PLTWD401 PLTTD401 PLTPW401
5. Angle grinder	Amps 6.0 Volts AC 120 Rated Speed (RPM), /min 11000 Spindle Thread 5/8"-11 Max. grinding wheel ø 4-1/2" (115mm) Grinding wheel thickness 1/4" (6 mm) Max. sanding disc ø 4-1/2" (115mm) Max. flap disc ø 4-1/2" (115mm) Max. wire wheel ø 4" (102mm)	5	workshop	PLTWD401 PLTGS401 PLTHW401 PLTPS401 PLTFF401 PLTPW401
6. Grooving machine	Frequency:50 Hz Max. Wall Thickness:10 mm Output RPM:23 RPM Gross Weight:163 kg	1	Workshop	PLTHW401 PLTPS401 PLTFF401 PLTGS401 PLTPW401 PLTWD401

7. Electric Pressure Test Pump	Drive:110volt motor Starting: Electric Maximum pressure: 1500psi / 100 bar Maximum flow: 9.5 L/min Sound pressure: 66dB(A) @ 7m Weight: 36kg	1	workshop	PLTHW401 PLTFF401 PLTGS401 PLTWD401
8. Pressure testing pump	Max. Head:<10m Max. Capacity:<50 L/min Pressure Medium: Water Type: Handheld	1	workshop	PLTHW401 PLTFF401 PLTGS401 PLTWD401
9. HDPE butt welding Machine	TW200-4M:AC:220V Heater Plate Temperature:0-300°C Heater Plate Power:2000W Electric Planer Power:900W Hydraulic Equipment:750W Pipe Diameter:63-200mm Fusing Type: Butt welding	1	workshop	PLTFF401 PLTGS401 PLTWD401
10. PPR Welding machine	1. Welding size : 20, 25, 32, 40, 50, 63mm 2. Ambient humidity: -20 deg C to -80	10	workshop	PLTHW401 PLTFF401 PLTWD401

	deg C. 3. Voltage Range: AC 180V to 240V 50 Hz 4. The heating Head Temperature: 260 deg C t0 ±5 5. Heating – Automatic			
11. Tire fort(COMPLETE STRONG PULL)	Nominal capacity:3200kg Rated pulling power:441N Cable diameter:16mm Safety rope load capacity:5 Safety factor and static load capacity:5 Displacement load Max.:4000Kg L1 :80cm	2	workshop	PLTFF401 PLTGS401 PLTWD401
12. Motor welding machine	MACHINE SPECIFICATIONS Output Range:30 - 700 DC Amps Rated Output: @ 400c OCV:88V max. Aux Power:3,400 watts 60Hz AC230V @ 15 amps ENGINE SPECIFICATIONS Description:3 cyl,air-cooledDiesel Engine12V Electric StartTwo-stage Dry Type Air CleanerFuel Filter with Water	2	workshop	PLTFF401 PLTGS401 PLTWD401 PLTPW401

	Separator Horsepower:33kw (44 HP) @ 1800 RPM Displacement:2.83L(173 cu in)Bore x Stroke100 x 120mm Capacitie:Fuel:95 litres , Oil:8.0 litres OperatingSpeeds:500A load1800 RPM ,High Idle1890 RPM Fuel Consumption:7.34 litres/hour 2.5 litres/hour			
13. Chain block	CAPACITY(TON):20 CHAIN WEIGHT/LIFT 1 m (kg) LOAD CHAIN:15.96	1	Workshop	PLTFF401 PLTGS401 PLTWD401 PLTPW401
Map gas	Type: Map-Pro. Diameter: 2.94 Inch. Height: 10.64 Inch. Capacity: 14.1 Ounce. Standard Cylinder Outlet: CGA 600. DOT Specification: 39 NRC Pressure Rating: 250 PSI. Weight: 1.9 Pound.	1	workshop	PLTPS401 PLTFF401 PLTGS401 PLTPW401
Manual mechanical pipe clamp	aux Power:3,400 watts 60Hz AC230V @ 15 amps Stroke: 45MM Output: 3T Mould: φ16MM, φ20MM, φ25MM	2	workshop	PLTHW401 PLTPS401 PLTFF401 PLTGS401 PLTWD401

	Product length: 530MM Weight: 2.5KG			
MANUAL HYDRAULIC PIPE BENDING MACHINE	Max.working Pressure(Mpa):44 Max.Working movement(mm):250 Curve Angle:TT $2 \leq a < TT$ Curvature Radius:4D Hydraulic Oil:N15 Pipe External Diameter Series:21.3×2.75 26.7×2.75 33.5×3.25 D x T (mm):42×3.25 48×3.5 60×3.5 Net Weight(kg):60 Shape Dimentions (mm):760x380x230	2	workshop	PLTHW401 PLTPS401 PLTFF401 PLTGS401 PLTWD401
ELECTRICAL HYDRAULIC PIPE BENDING MACHINE	Max.working Pressure(Mpa):59 Max.Working movement(mm):320 Curve Angle:TT/ $2 \leq a < TT$ Curvature Radius:4D Hydraulic Oil:N15 Pipe External Diameter Series:21.3×2.75 26.7×2.75 33.5×3.25 D x T (mm):42×3.25 48×3.5 60×3.5 75.5×3.75 88.5×4.0 Net Weight(kg):150 Shape Dimentions (mm):960x450x540	2	Workshop	PLTHW401 PLTPS401 PLTFF401 PLTGS401 PLTWD401

Water pump pressure	Maximum output capacity (L/min):500 Inlet/outlet diameter thread type (mm/inches):50/2-PF Total head (m):50 Suction head (m):8 Pressure (bars):5 Debris size capacity (mm):3 Engine Engine Model:GX160 Engine type:4-stroke, OHV,** 1 cylinder Displacement (cm³):163 Bore x stroke (mm) :68 x 45 Engine speed (rpm):3600 max Engine net power (kW):3.6 Cooling system:Forced air Ignition system:Transistor Oil capacity (L):0.6 Fuel tank capacity (L):3.1 Operating time:2h30 approx Starter system:Recoil Sound pressure level at workstation (dB(A)):91 Guaranteed sound power level (dB(A)):106	1	workshop	P PLTPS401 PLTHW401 PLTFF401 PLTGS401 PLTWD401
Leak detector	Sensor(Microphone):112Ch Digital MEMS Effective Frequency Range:2 k ~ 48 kHz Microphone Sensitivity:-41 dBFS Signal-To-Noise ratio:66 dB(A) Camera Frame Speed:25 FPS Detection Distance:0.3 m ~ 50 m Display Type:5" Color LCD Battery Operation Time:4 Hours	2	Workshop	PLTFF401 PLTWD401

	Product Size:237 mm x 146 mm x 56 mm Product Weight:1.2 kg Operating Temperature:-20 ~ 50 °C			
Water Heaters	Power Source: AC Color: White Wattage:5.5 KW Voltage:240 Volts Maximum Flow Rate 1.5 Gallons Per Minute	5	Workshop	PLTHW401
solar water heater	Collector area 3m ² , intercept efficient 0.76 tank volume 0.2m overall loss efficient 5.4kJ/hrK Maximum heating rate 6500kJ/hr	3	workshop	PLTHW401

1.2. Category 2: Tools and instruments

Name and description	Specifications	Quantity	Type of room	Module code
Set of standard open-end wrenches	Material: Steel Item Dimensions: LxWxH 17.5 x 4.3 x 4.3 inches Sizes: From 6, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 21, 24, 27, 30, 32 mm	50	Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401
Calibrated tape measure	Material: Aluminum Item Dimensions LxWxH 1 x 1 x 1 inch	200	Workshop	PLTGS401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401
Pipe wrenches	Brand: Rigid Material: Alloy steel, Item Dimensions LxWxH 9.75 x 1.25 x 2.75 inches, Size 250mm (10in) Style Durable, Heavy-duty	50	Workshop	PLTGS401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401

Hack saw	Blade Material:High Speed Steel, Blade Length 12 Inches, Product Dimensions 15.94 x 0.98 x 6.77 inches, Frame:Metal	100	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401
Tape measure	Product Dimensions : 4.6 x 4.6 x 1.39 inches, length 5m (five metres), width 13mm; made of thin, plastic-coated metal, calibrated on one side with 1mm and 1cm lengths marked in black and 10cm lengths marked in red, for ease of reading with locking mechanism and metal clip, for attachment to referee's clothing	100	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401PLTPW PLTHW 401 PLTPS 401
Hand Threader Die Head with its handle	Measurement:System Imperial, Model: Rigid Sizes: 5/8"3/8", 1/2",3/4",1",11/4",11/2",2" Material : Ratchet Handle and Alloy Dies	20	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401
Water pump plier	Material: High carbon steel, Item Dimensions: LxWxH 6.3 x 2.13 x 0.59 inches, Handle Material Rubber	50	Class room Workshop	PLTGS401 PLTWD 401 PLTFF401 PLTPW401 PLTHW401 PLTPS401

Normal Plier	Material: Carbo steel, Item Dimensions LxWxH:8.03 x 2.09 x 0.75	100	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF401 PLTPW401 PLTHW401 PLTPS401
Safe Belt	Material: Polyester, Closure: Type Clip, Product Dimensions: 7 x 10 x 0.26 inches	100	Class room Workshop	PLTGS 401 PLTWD401 PLTFF401 PLTPW401 PLTHW401 PLTPS401
Chain pipe vice	Material: Metal, Product Dimensions 16 x 16 x 48 inches, Weight 60.8 pounds, Style Adjustable,Portable	15	Class room Workshop	PLTGS 401 PLTWD401 PLTFF401 PLTPW401 PLTHW401 PLTPS401
Bench pipe vice	Material: Cast Iron Item Weight 4.48 Kilograms, Item Dimensions LxWxH 7.4 x 8.6 x 2.8 inches	40	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF401 PLTPW401 PLTTD401 PLTHW401 PLTPS401

Claw hammer	Head Material: Alloy Steel, Handle Material: Wood, Nylon, Item Weight: 1 Pounds, Cutting Diameter 1 Inches	30	Workshop	PLTGS 401 PLTWD 401 PLTFF401 PLTPW401 PLTHW401 PLTPS401
Ball pen hammer	Handle Material Alloy Steel Item Dimensions: LxWxH 13.5 x 3 x 2 inches Item Weight:2.5 Pounds	30	Workshop	PLTGS 401 PLTWD 401 PLTFF401 PLTPW401 PLTHW 401 PLTPS401
Mallet hammer	Handle Material: Alloy Steel Head: Rubber Product Dimensions: 11.4 x 3.7 x 1.4 inches	30	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF401 PLTPW401 PLTHW401 PLTPS401
Chain wrench	Material:carbon steel, handle length:200mm, chain length:400mm, G.W/N.W.: 18/17 kgs	5	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF401 PLTPW401 PLTHW401 PLTPS401
Electric Probe test pen screwdriver type electric tester	PRODUCT LENGTH:188MM / 138MM, PRODUCT WEIGHT: 25G / 16G	50	Class room Workshop	PLTGS 401 PLTWD401 PLTFF401 PLTPW401 PLTHW401 PLTPS401

Masonry cold chisel	Handle Material:Alloy Steel, Blade Material: Alloy Steel, Iron, Chromium-Vanadium Steel, Brass, Size:3/8" , 1/2" , 5/8" , Item Weight 11.7 ounces Product Dimensions 7 x 4 x 1 inches	10 Sets	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF401 PLTPW401 PLTHW401 PLTPS401
Metal chisel	Handle Material:Alloy Steel, Blade Material: Alloy Steel, Iron, Chromium-Vanadium Steel, Brass, Size:3/8" , 1/2" , 5/8" , Item Weight 11.7 ounces Product Dimensions 7 x 4 x 1 inches	10 Sets	Class room Workshop	PLTGS 401 PLTWD401 PLTFF401 PLTPW401 PLTHW401 PLTPS401
Chipping hammer	Material:carbonsteel,Handle Material FiberGlass, Item Weight:2.5 Pounds	30	Class room Workshop	PLTGS401 PLTWD401 PLTFF401 PLTPW401 PLTTD401 PLTHW401 PLTPS401
Hydraulic flaring tools set	Material:Aluminum alloy, Product volume:33cm * 24cm * 8cm, Expanded diameter range:6-19mm Weight:2.5kg	10	Class room Workshop	PLTGS 401 PLTWD401 PLTFF 401 PLTPW401 PLTHW401 PLTPS401
Manual Tubing Flaring	Material:Aluminum alloy, Product volume:33cm * 24cm * 8cm, Expanded diameter range:6-19mm Weight:2.5kg	35	Class room Workshop	PLTGS 401 PLTWD401 PLTFF 401 PLTPW401

				PLTHW 401 PLTPS 401
Deburring tool set	Holder size:M5 Blade:B10,B20,B30,E100,E200,E300, Material:Steel	15	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
Wire brush	Brush Material:Brass Wire, Wooden handle size:21.5*2.5cm	30	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401
Metal drill bit	Type: Twist Drill Bit, Size:1-14mm, Material:M35 cobalt,M2	10	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF401 PLTPW401 PLTHW 401 PLTPS 401

Pencil	Line widths are 0.35 mm, 0.5 mm, 0.7 mm and 1.0 mm. Hardness varies usually from HB to 2H		Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401
Drafting board	Frame Dimensions:L(1075-1800)*W600mm,Desktop Support 1200-1800mm,Height Range 690-1150mm	5	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW401 PLTHW401 PLTPS401
T-square	Size: 18cm, Material:Plastic,Square And 45-Degree Lines, Protractor Saw Guide,	30	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTTD 401 PLTHW 401 PLTPS 401
French curves	Material:Plastic, Size:15cm/30cm	35	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401

Rulers	Material:Plastic, Size:15cm/30cm	35	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401
	Material: Plastic or metal,Size: 56*44*22cm Hammer head material forged high carbon steel, Handle:wood handle or fiberglass handle,2.5 kg	35	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401
Club hammer		25	Class room Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS 401
Calibrated tape measure	• Model : SF-1550 • Product Type : Bottle Capping Machine • Electrical source : AC Supply 220V • Frequency : 50/60 Hz • Power : 80 W • Case : Plastic Material • Lock & cover diameter : 10 & 50 mm • Size : 70 mm • Weight : 1 Kg (Approx	10	Workshop store	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTH401, PLTPS 401

Drilling machines,	No Load Speed : High: 0-2,900RPM, Low:0-1,200RPM Voltage : 220 v Blow rate : 6,000/19,000bpm Cord Length : 2.5 m	10	Workshop store	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
Broom	Wooden handle detachable: 1,2m Brush : wood or plastic block of 300mmx60mm Bristles length of 80 to 100mm	35	Workshop store	PLTGS 401 PLTWD401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
Screw driver kit	Two micrometer-adjustable torque wrenches. Nine hex-wrench bits. Two 7/16" hex-wrench extensions. One 7/16" female hex-wrench adaptor (Coupler). One hex-to-square adapter for wrenches and one adaptor for screwdrivers. One adjustable torque screwdriver. Seven screwdriver bits; five slotted, two Phillips. Hinged metal box. Additional torque screwdrivers available	10	Workshop store	PLTGS 401 PLTWD 401 PLTFF401 PLTPW 401 PLTHW 401 PLTPS 401
Clamps	Size: Length of 100mm and throat of 65mm,Forged body with smooth acting threaded clamp. Fitted with swivel tip to reduce marking. Nett Weight:0.60kg	35	Workshop store	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401

	Material:High quality metal steel			
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1.3. Category 3: Security materials

N°	Name and description	Specifications	Quantity	Type of room	Module code
1	Goggles	Eyewear type: The goggles should primarily provide protection against impact & optical radiation and splashes. Weight: Should weigh approx 51g Widest lens: Should have ellipsoidal lens that extends the viewing range further, even peripherally. Comfort: Should have a soft PVC shroud that gently hugs the face and is indirect vented to allow cooling airflow and help prevent fogging.	25	Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
2	Mask	Respirator Rating Number: Class 95 Capacity: Removes 95% of all particles that are at least 0.3 microns in diameter.	25	Workshop	PLTGS 401 PLTWD 401 PLTFF 401

					PLTPW 401 PLTHW 401 PLTPS401
3	Ear muffler (Ear plug)	Material: Slow recovery polymer foam Cord: PVC material for cord	25	Workshop	PLTPW 401 PLTHW 401
5	Gloves	Material: Latex Outer Material: Latex Length: Medium	25 pairs	Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
6	Safety helmet	Material: High Density Polyethylene Size: Fully adjustable internal harness and nape strap for extra comfort Shock absorption: vertically penetration resistant against sharp and pointed objects Insulation level: flame resistance	25	Workshop/field	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401

		with an electrical insulation of 440 V			PLTPS401
7	Overcoats for trainers	Material: 100% cotton, with long sleeve Size: Medium, Large and Extra	4per trainer	Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
8	Overall, for trainees	Type: Heavy Duty Material: 100% cotton Pockets: Poly Zip and Velcro Fasten two side Pocket, One back Pocket two breast pocket Size: Small, Medium, Large	1pair for trainee		PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
9	Safety shoes	Materials: Upper made of pure leather of thickness 1.6-1.8mm Toe protection: The shoes are marked steel toe cap to withstand minimum impact energy of 200 joules. Outer sole: made of polyurethane, directly moulded, resistant to oil and acid with anti-	30pairs	Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401

		skid design. Foam padded cushion for ankle protection			PLTPS401
10	First Aid kit	With assorted medication for burns and cuts: e.g.: scissors, antiseptic cream, iodine, eyewash, bandages of 2 sizes, plaster, cotton wool; 1. 1x Leaflet; 2. 60 x Assorted plasters; 3. 8 x Non-woven bandages; 4. 16 x Dressing pads; 5. 12 x Safety pins; 6. 20 x Wipes; 7. 6 x Eye pads; 8. 3 x Pairs of gloves	5	Workshop	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
11	Dry chemical extinguishers for class ABC	Design: Non corrosive pull pin; Completely rechargeable; Full hand grip for ease of operation; Environment condition: Waterproof stainless steel gauge; Valve: Steel valve, Quick release hose; Cylinder material: Steel cylinder complete with cylinder skirt ,Steel 2 1/2" cylinder; Cylinder with high corrosion and impact resistant finish (red epoxy); Brackets: Comes complete with wall bracket; Gross weight: Minimum 5kg	5	Workshop/labs/classes/Garage	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401

12	CO ₂ Extinguishers	Agent: 99% pure CO₂ gas Cylinder size: D152*H750mm Cylinder thread: PZ 25.4 Bottom shape: flat base Thickness: 5.0mm Valve: Brass body with red middle handle, hanger loop, thread: W21.8*14 Hose: black rubber hose with horn. Length: 110cm Siphon tube: M10*1*680mm Bracket: Red round hook Cylinder painting: 7325 Red painting Weight: Minimum 5kg	5	Workshop/lab/class/site	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
13	Fire blanket	Item Weight :0.98883137kg Material: Fiberglass Working Temperature: Up to 1022°F (550°C) Product Size: 1m x 1m, 1.2m x 1.2m, 1.2m x 1.8m & 1.8m x 1.8m	5	Workshop/lab/class/site	PLTGS 401 PLTWD 401 PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
14	Aerosol Fire extinguisher	Dimensions: 268*225mm Total weight: minimum 4.6kg Volume coverage: up to 150m ³ Discharge time :25sec	5	Workshop/lab/class/site	PLTGS 401 PLTWD 401

		Activation, current: Manual screw-in starter with pin or cord Operation conditions: -40°C to 75°C			PLTFF 401 PLTPW 401 PLTHW 401 PLTPS401
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1.4. Category 4: Consumables and raw materials

Name and description	Specifications	Quantity	Type of room	Module code
Pipes	• Size : 1", 1 1/2", 2", 2 1/2", 3", 4", 5", 6", 8", 10" • Material: Galvanised Iron (15mm - 150mm thick), Polyvinyl Chloride (1mm - 3mm thick), High Density Polyethylene (PN 16-25), Stainless steel (2.5 - 10mm 6000mm long), Copper pipes • Length: 6000mm, HDPEs 50000 - 100000mm	10	class room workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401
Fittings	• Size : 1", 1 1/2", 2", 2 1/2", 3", 4", 5", 6", 8", 10" • Fitting materials: HDPE, PVC, GI, Stainless Steel • thickness : GI 5mm, HDPE 40mm, PVC 2.5mm, Stainless steel 2 - 25mm	20	class room workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401
Thread rods	- Material: Carbon steel round bar, • Thickness: 8 - 480mm	50	class room workshop	PLTWD401 PLTFF401

	• Length: 1000mm - 12000mm			PLTGS401 PLTHW401 PLTPS401
welding rods	• Material: Forney 30405 E6013 • Size: 1/8-Inch, 5/32-Inch	10	class room workshop	PLTWD401 PLTFF401 PLTGS401
Seal Tape	Material: Poly-Temp Medium Density • Size: 4.92 x 2.4 x 2.2 inches • Model number: 16025	100	class room workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401
Fine Yarn	• Material: Hemp (200g) • Size: Length 375mm X Width 69mm X Height 69mm • Weight: 0.2kg	100	class room workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401
Paper	Material type: Drafting paper, Thick draft paper, Cloth, Tracing paper, Tracing tube, Ink, Dry transfer. • Dimensions: 8.5x11, 11x17, 17x 22, 22x34, 34x44	50	class room workshop	PLTTD401
Pencil	• Material: Wooden Graphite Pencils • Model: HB • Model number: 9H, 8H, 7H, 6H, 5H, 4H, 3H, 2H, H, F, HB, B, 2B, 3B, 4B, 5B, 6B, 7B, 8B, 9B, 9xB. • Length: 175mm	100	class room workshop	PLTTD401
Bolts	Material: Xylon plate, Zinc Plated, Cadmium, Hot dipped galvanised plated, Teflon Plated/PTFE Coated. • Sizes: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4",	100	class room workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401

	5",6",8",10",12",14",16",18",20",24". •Length: 1.6 - 20cm			
Sand	Material: Lake Sand, Plaster Sand	3	class room workshop	PLTWD401
Rubber	• Material: Nitrile rubber, Neoprene, Silicone, fibre • Sizes: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4", 5", 6", 8", 10", 12", 14", 16", 18", 20", 24". • Dimensions: M4, M5, M6, M8, M10, M12, M16 and M20	150	class room workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401
Cutting Disk	• Materials: Carbon Steel • Thickness: 1,0 - 22.4mm • Sizes: 4", 4.5", 5", 7", 9"	50	class room workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401 PLTBW401
Cables	• Classification: Low Voltage or L.T Cable up to 1000V, High Voltage or H.T Cable (above 1000V to 11KV), Super Tension or S.T Cable (above 11KV to 33KV), Extra-High Voltage or E.H.T Cable (above 33KV to 66KV), Extra Super Voltage or E.S.T Cable (above 66KV). • Specification: N = VDE German Electrical Engineers, Y = PVC Insulated, F = Galvanized Steel Flat Wire Armoring, Gb = Galvanized Steel Tape, Y- PVC Sheath (Outer Sheath), re = Conductor of Single Solid Wire Having Circular Cross	5	class room workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401 PLTBW401

	Section, rm = Conductor of Multiple Stranded Wires Having Circular Cross Section, sm = Conductor of Multiple Stranded Wires Having Sector Shape Cross Section • Sizes: 6 - 25mm ²			
Clips	• Materials: Carbon steel, Stainless Steel, Plastic, Copper, Brass, Aluminium, Alloy steel, Chrome/chrome Plated pipe clamps. • Types: Adjustable pipe clamps, Cushioned pipe clamps, U-Bolt, two-Bolt Pipe clamp, Three-Bolt pipe Clamp, Yoke type pipe clamp, Riser clamp, Extended Pipe clamp, Multiple pipe clamp. • Features: Simple operation, Easy installation, Adjustable in small range, nice appearance, Impact resistance, Quick and easy installation, Shock - absorption property, Acoustic reduction property, Heavy torque, Suitable for small and large-diameter pipes • Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4", 5", 6", 8", 10", 12", 14", 16", 18", 20", 24".	50	class room workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401 PLTBW401
Screws	• Types: Self-drilling screws, Self-tapping screws, Chipboard and wood screws, Drywall screws, Roofing screws, Screws for PVC, Metric screws, nuts and washers,	300	workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401

	TRILOBULAR screws, Decorative screw caps, Bits and hex holder, Rivets and accessories, Blister packs and DiY screws. • Size: 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 5, and 6 inch			PLTBW401
Nails	• Types: Common nails, Box nials, Roofing Nails, Masonry Nails, Finishing Nails, Casing Nails, Brad Nails, Cut Flooring Nails, Spiral Flooring Nails, Annular Ring Nails, Duplex Nails, Miscellaneous Nails. • Sizes: 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.25, 3.5, 4, 4.5, 5,6		workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401 PLTBW401
Saddle Clamp	• Materials: Steel, Cast iron, Polypropylene. • Coating: Epoxy (for metal clamps) • Sizes: 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.25, 3.5, 4, 4.5, 5,6	50	workshop	PLTWD401 PLTPS401 PLTFF401 PLTHW401
Brazing Rod	• Types: Copper, Zinc, Silicon, Aluminium, Silver Brazing, Steel. • Sizes: 2-2.5 mm, 0-0.5 mm, 1.5-2 mm, 0.5-1 mm, >2.5 mm, 1-1.5 mm.	100	workshop	PLTGS401 PLTPW401
Boss white	• Materials: Metallic • Types: Twist Bits, Gun bit, Auger Bit, Core drill bit, Left-Hand Bit, Brad point Bit, spade bit, Adjustable Wood Bit, Gimlet Bit, Hole Saw Bit, Forstner Bit. • Sizes: 6mm drill bits, 8mm drill bits, 10mm drill bits, 12mm drill bits, 13mm drill bits, 15mm drill bits, 18mm drill bits, 23mm drill bits, 24mm drill bits,	10	workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401 PLTBW401

	26mm drill bits. • Length: 1 - 7/8", 2", 2 1/4", 2 5/8"			
Drill bits	• Materials: Metallic • Types: Twist Bits, Gun bit, Auger Bit, Core drill bit, Left-Hand Bit, Brad point Bit, spade bit, Adjustable Wood Bit, Gimlet Bit, Hole Saw Bit, Forstner Bit. • Sizes: 6mm drill bits, 8mm drill bits, 10mm drill bits, 12mm drill bits, 13mm drill bits, 15mm drill bits, 18mm drill bits, 23mm drill bits, 24mm drill bits, 26mm drill bits. • Length: 1 - 7/8", 2", 2 1/4", 2 5/8"	10	Workshop	PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401 PLTBW401
Anchor Bolts	• Materials: carbon steel , Ductile iron, Alloy steel, Composite or plastic pipe, Galvanized pipe. • Sizes: 1/2" (12.7mm), 3/4"(19.3mm)	50	Workshop	PLTFF401

2. Training facilities

2.1.Furniture and office materials

SN	Name and description	Specification	Unity /price	Quantity	Type of room	Module Code	Learning hour (s)
1	Laptop and its accessories	• Model No. 001 • Processor Type: Intel Atom • RAM Capacity: ≥4GB • Hard Disk Capacity:	586,500	5	Computer lab	PLTTD401	60

		500GB - Graphics Card: Integrated Graphics Card - Processor Brand: intel - Widescreen: Widescreen - Built-in Bluetooth: Built-in Bluetooth - Fingerprint: Without Fingerprint - Laptops: Light and Ultra-Slim Laptops - ROM: > 256G					
2	Desktop & its accessories	- Model No. K-21.504 - Memory Type: DDR3 - Use: Home/Commercial/Game - CPU Frequency: 2.5-3.0GHz - Keywords: All in One PC - Colour: Black - Interface Type: HDMI, VGA, USB	395,373	30	Office room	PLTTD401	60

		• Display Ratio: 16:9 • Processor Series: Intel Core I7 • Memory: >4G • Hard Disk: SSD 500 GB • Display Resolution: 1920X1080 Power: 100-240V AC 50/60Hz • Output: 12V DC 6A 60W • Dimension: 60*15*45 • Trademark: Kuai					
3	File box	• Type: Display Book • Material: Plastic • Type Document Bag: Multiply • Size: A4 • Feature: Label • Usage: Data Book • Model No. 5005 • Colour: Assorted • Lock: Without Lock • Zipper: Without Zipper • Material: Plastic • Thickness: 0.6/0.03mm	3000	60	Office room	PLTTD401	2
4	Printer	• Model no. all in one copier, printer and fax-	400,000	2	Office room	PLTTD401	1

		0350 • Function: print, copy, scan and fax • Without network printing • Max printable size: A4 • Laser type.					
5	Paper	• Material: 100% wood pulp • Size: A4, • Letter size(8.5"x11"), • Legal size(8.5"x14") • Whiteness: 98-100% • Packing: 500 sheets per ream	Carton (5Ream)	2	Office room	PLTTD401	
6	Office table	• Usage: office room/ • Material: MDF • Color: woody • Style: Modern • Folded: Unfolded • Size: 1200W*600d*750hmm • Drawers: 3 Drawers	300,000	2	Office room	PLTTD401	
7	Chair	• Model no. HY-128B • Rotary • Material: Genuine leather	100,000	6	Office room	PLTTD401	

		• Modern style • Dimension: 78*32*58 cm					
8	Power extension cable(	• Mode no. SR 530 • Color: not specified • Cable length: 5m • Hole digits: 6 • Material: PC+ABS • Dimension: 370*70.5*43mm	15000	10	Office room	PLTTD401	
9	Documents Shelf	• Mode no. SZ-FC017 • Condition: New • Wood style: woody • Material: wood • Door: 2 • Length and width:	350,000	4	Office room	PLTTD401	
10	Pen	• Mark: Bic • Colour: blue and red • Material: Plastic • Inner box: 50 pcs	200	5 boxes	Office room	PLTTD401	
11	Pencil	• Body material: wood • Body colour: multiple • Lead diameter: 2.65mm • Dimension: 7 inches.	150	30 pcs	Office room	PLTTD401	
12	Marker	• Color: Multi colour	300	5 boxes	Office room	PLTTD401	

		• Hardness: Medium soft • Ink type: Dry Erase • Point diameter: 4.5 mm • Size: normal • Material: Plastic(polypropylene) • Dimension: 142*15mm			Class room Workshop		
13	A4 paper padded envelope	• material: Rigid paper • Seal bag • Moisture proof • Bio-degradable • Disposable • Shock resistance • Thickness: 2.5-4mm • - Color: Gold	Package (60Pces)	2	Office room Workshop	PLTTD401	

2.2.Audio-visual materials

No	Name and description	Specifications		Quantity	Type of room	Module code
2	Projector	• Brightness 3,600 ANSI Lumens • Resolution 800x600	700,000	1	Classroom	PLTTD401 PLTWD401

		• Aspect Ratio 4:3 (SVGA) • Contrast 20,000:1 (full on/off) • Display Type DLP x 1 • Color Processing 10-bit • Video Modes 720p, 1080i, 1080p/60, 1080p/24, 1080p/50, 576i, 576p, 480p, 480i • Data Modes MAX 1920x1200 • Lamp Life 4,000 hours / 10,000 hours (Eco) • Lamp Model MC. JPV11.001 • Digital Zoom Yes • Power 240 Watts 100V - 240V • Size 11 cm x 31 cm x 24 cm				PLTFF401 PLTGS401 PLTHW401 PLTPS401 PLTBW401
3	Projector board screen	• Length: 2m • Height: 1.5m • Colour: white	300,000	1	Classroom	
4	Laptop	• 6200U CPU @ 2.30GHz 2.40 GHz • Installed RAM:8.00 GB (7.89 GB usable) • System type: 64-bit operating system, x64-based processor • RAM: 500 GB	700,000	30	Classroom	PLTTD401 PLTWD401 PLTFF401 PLTGS401 PLTHW401 PLTPS401 PLTBW401

2.3. Didactic materials

Name and description	Specifications	Quantity	Type of room	Module code
Black board drawing instruments	A 5-piece set of durable, lightweight plastic instruments designed for blackboards. Features handles for ease of use. Includes a 45° triangle (23" base, 16" sides), 60° triangles (2" base), 180° protractors, meter ruler (39"/100 cm), and a clear acrylic compass (18" L with rubber suction cup).	2 set	classroom	PLTTD401
Textbook lessons	See the book reference on the last page of this documents	30 books per module	Library	PLTTD401
Animated video	Animated video	4	Classroom	PLTTD401

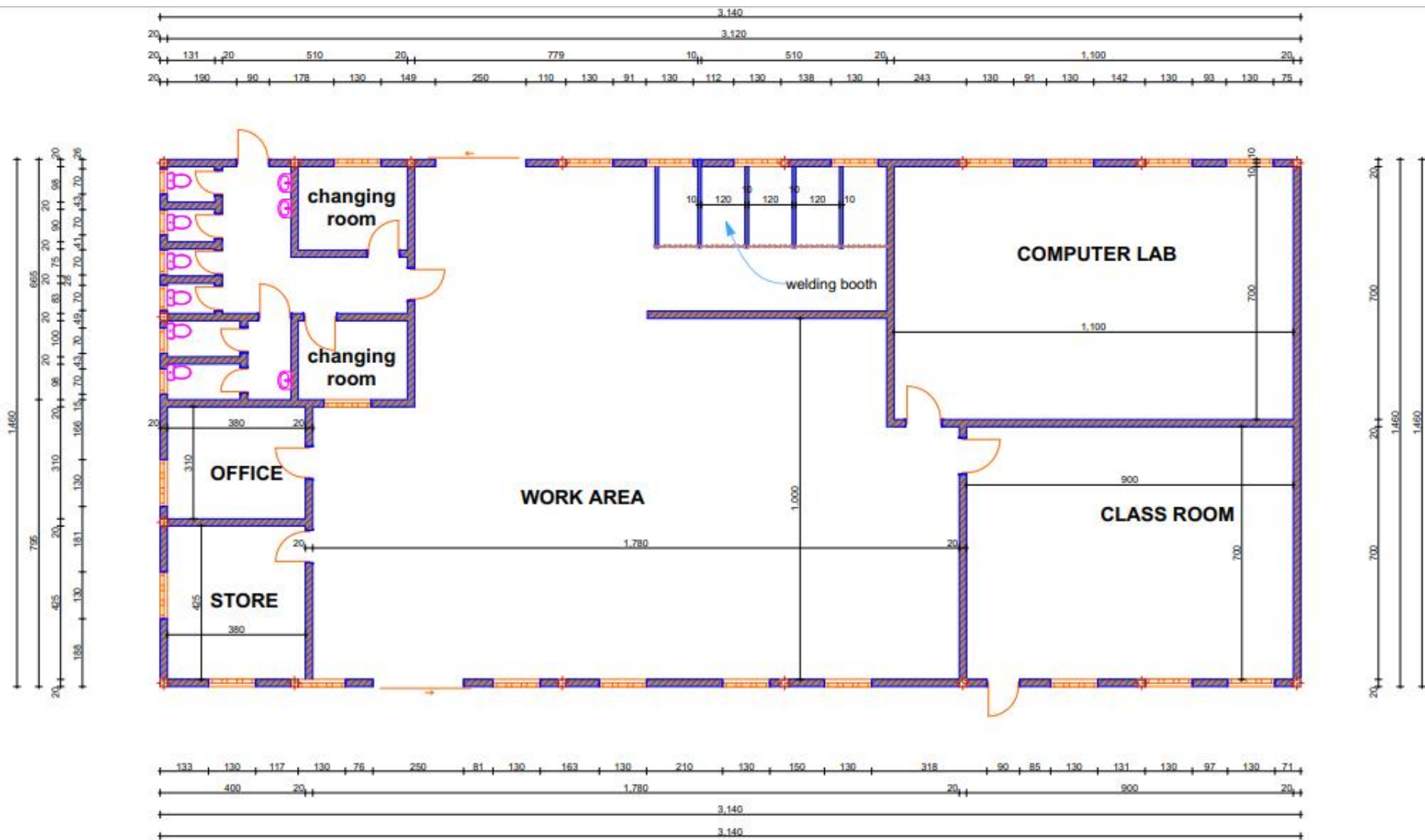
2.4. Infrastructures

3. The workshop must be of concrete structure. Based on class size of 30 learners, the space requirements for the Training/learning and circulation areas are as follows:

Type of premises	Number of rooms	Length (meters)	Width (meters)	Total surface (m ²)
Classroom	1	9	7	63
Working area	1	17.8	10	178
Computer lab	1	11	7	77
Storage area for consumables and tools	1	4.25	3.8	16.15
Trainers' room	1	3.8	3.1	11.78
Changing room	2	-	-	-
Washroom	2	-	-	-
Welding booth	5	-	-	-

WORKSHOP

LAYOUT



N.B: The occupation of a training classroom is in function of a group of 30 learners for the length of the training package not considering the hours of the internship. The group of trainees is divided into 5 (30 learners per workshop).

The plans of the workshops and classrooms are annexed to the training organization guide.

Total hours of occupation must be equal to the total duration of the training (excluding the duration of the internship).

The percentage of the occupation must equal 100%.

The premises that are not used in learning activities can have hours / occupation. So, we will write 0 for these types of premises.

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