



TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION COUNCIL (TVET CDACC)

Programme Description and Assessment Tools

Manual Metal Arc Welder for Mild Steel

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	Workplace foundation	
	<i>AGEN 001 001</i>	Workplace Health and Safety
	<i>AGEN 001 002</i>	Fire Fighting
	<i>AGEN 001 003</i>	Perform First Aid Practices
	<i>AGEN 001 004</i>	Emergency Plans
	<i>AGEN 001 005</i>	Environmental Integrity
	<i>AGEN 002 001</i>	Principles of work ethics
	<i>AGEN 002 002</i>	Conflict Resolution Techniques
	<i>AGEN 002 003 004</i>	Speaking, Listening and Reading Skills
	<i>AGEN 002 005 006</i>	Team Work

<i>AGEN 003 001</i>	Time Management Techniques
<i>AGEN 003 002</i>	Quality Improvement Principles
<i>AGEN 003 003</i>	Productivity Improvement Measures
<i>AGEN 004 001</i>	Measurements
<i>AGEN 004 002</i>	Carry out simple mathematical calculations
<i>AGEN 005 001</i>	Basic Drawings

Specific Fundamentals

<i>AWEL 001 001</i>	Apply Hand Tools Used in Welding Operations
<i>AWEL 001 002</i>	Apply Power Tools and Equipment used in Welding Operations
<i>AWEL 001 004</i>	Read and Interpret Drawings and Specifications special for welding

Elective

<i>AWEL 002 001</i>	Arc Weld Mild Steel in the 1F Position
<i>AWEL 002 002</i>	Arc Weld Mild Steel in the 2F Position
<i>AWEL 002 003</i>	Arc Weld Mild Steel in the 3F Position
<i>AWEL 002 004</i>	Arc Weld Mild Steel in the 4F Position
<i>AWEL 002 005</i>	Arc Weld Mild Steel in the 1G Position
<i>AWEL 002 006</i>	Arc Weld Mild Steel in the 2G Position
<i>AWEL 002 007</i>	Arc Weld Mild Steel in the 3G Position
<i>AWEL 002 008</i>	Arc Weld Mild Steel in the 4G Position
<i>AWEL 002 009</i>	Arc Weld Mild Steel in the 5G Position
<i>AWEL 002 010</i>	Arc Weld Mild Steel in the 6G Position

Final Project

<i>AWEL 002 061</i>	Manufacture a Steel Window
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1. Programme Description

1.1. Overview:

Program Code:	PWEL 001
Workplace foundation:	156 hours
Specific fundamentals:	50 hours
Elective:	144 hours
Industrial Attachment	3 Months
Final Project	12 hours
Total Teaching Hours:	362 hours

Note:

The hours were based on experience of members. All times in the initial phases of curriculum and standard development are best estimates based on experience. Only the pilot will give actual timings that should then be amended in the OS and Curriculum documents.

1.2. Entry Requirements

This course is intended for individuals who have attained at least a KCSE D+ or its equivalent from recognized institutions. Some candidates may require Assessment before Admission.

1.3. Competency Based Assessment

The mode of assessment of this course will be both continuous (formative assessment) and summative assessment. Internal assessment will be conducted during training while summative assessment will be conducted at the end of each unit of learning or cluster of units of learning.

The assessment system will comprise internal and external assessment and verification. The system will be managed by trained internal and external assessors and verifiers. Experts from industry will participate as external assessors and verifiers while the trainers will be the internal assessors.

1.4. Competence Certification

On successful completion the candidates are awarded a Certificate of Competence that is internationally benchmarked. The Certificate will be issued by the Technical University. Depending on the selected specialization, a trainee who demonstrates competence in all units of learning he/she will be issued with a Certificate of Competence in Manual Metal Arc welder for mild steel.

1.5. List of Training Modules

1.5.1. Workplace foundation

Unit Code	Unit Name	Pre Requisites	Learning Hours	Reference Unit Standard in Occupational Standards	Assessment Tools
GEN001	Workplace HSE	KCSE D+ or its equivalent	54	<p>GEN 001, Element 1, 4,5 Apply workplace health, safety, environmental and emergency practices (30 hours)</p> <p>GEN 001, Element 2 Perform basic fire-fighting techniques (8 hours)</p> <p>GEN 001, Element 3 Perform basic first aid (16 hours)</p>	<ul style="list-style-type: none"> • AGEN 001 001 Workplace Health and Safety • AGEN 001 004 Emergency Plans • AGEN 001 005 Environmental Integrity • AGEN 001 002 Fire Fighting • AGEN 001 003 Perform First Aid Practices
GEN002	Workplace Skills	KCSE D+ or its equivalent	47	<p>GEN 002, Element 1 Principles of Work Ethics (7 hours)</p> <p>GEN 002 Element 2 Resolve conflict with others (8 hours)</p>	<ul style="list-style-type: none"> • AGEN 002 001 Principles of work ethics • AGEN 002 002 Conflict Resolution Techniques
				<p>GEN 002, Element 3 Demonstrate effective speaking and listening skills (8 hours)</p> <p>GEN 002, Element 4 Read and interpret work document (8 hours)</p>	<ul style="list-style-type: none"> • AGEN 002 003 004 Speaking, Listening and Reading Skills
				<p>GEN 002, Element 5 Interact with team members (8 hours)</p> <p>GEN 002, Element 6 Perform individual role in a team (8 hours)</p>	<ul style="list-style-type: none"> • AGEN 002 005 006 Team Work
GEN003	Work Activities	KCSE D+ or its equivalent	25	<p>GEN 003, Element 1 Apply Time Management Techniques (9 hours)</p>	<ul style="list-style-type: none"> • AGEN 003 001 Time Management Techniques
				<p>GEN 003, Element 2 Apply Quality Improvement Principles (8 hours)</p>	<ul style="list-style-type: none"> • AGEN 003 002 Quality Improvement Principles
				<p>GEN 003, Element 3 Productivity Improvement Measures (8 hours)</p>	<ul style="list-style-type: none"> • AGEN 003 003 Productivity Improvement Measures

Unit Code	Unit Name	Pre requisites	Learning Hours	Reference Unit Standard in Occupational Standards	Assessment Tools
GEN 004	Measurement and Calculations	KCSE D+ or its equivalent	15	WEL 001, Element 3, 5 Perform basic and advanced measurements and calculations	<ul style="list-style-type: none"> · AGEN 004 001 Measurements · AGEN 004 002 Carry out simple mathematical calculations
GEN 005	Drawings	KCSE D+ or its equivalent	15	WEL 001, Element 4 Read and Interpret drawings and specifications	<ul style="list-style-type: none"> · AGEN 005 001 Basic Drawings
Total GEN 001 - 005			156		

1.5.2. Specific fundamentals:

Unit Code	Unit Name	Pre requisites	Learning Hours	Reference Unit Standard in Occupational Standards	Assessment Tools
WEF001	Fundamental welding skills	GEN001 GEN 004 GEN 005	50	WEL 001, Element 1 Apply Hand tools used in welding operations (30 hours)	· AWEL 001 001 Apply Hand Tools Used in Welding Operations
				WEL 001, Element 2 Apply power tools and equipment used in welding (18 hours)	· AWEL 001 002 Apply Power Tools and Equipment used in Welding Operations
				WEL 001, Element 4 Read and Interpret drawings and specifications specific for Welding (2 hours)	· AWEL 001 004 Read and Interpret Drawings and Specifications
				WEL002b-f, Element 3 Prepare tools, equipment, consumables and work pieces according to material requirements	· This element is included in all other assessments
Total			50		

1.5.3. Elective:

Unit Code	Unit Name	Pre Requisites	Learning Hours	Reference Unit Standard in Occupational Standards	Assessment Tools
WEE001	Weld Mild Steel	WEF001	144	<p>WEL002a, Element 4 Weld mild steel work pieces in all positions in accordance with national and international specifications and procedures</p> <p>WEL002b-f, Element 5 Inspect finished product quality against national and international specifications and procedures</p>	<ul style="list-style-type: none"> · AWEL 002 001 Arc Weld Mild Steel in the 1F Position · AWEL 002 002 Arc Weld Mild Steel in the 2F Position · AWEL 002 003 Arc Weld Mild Steel in the 3F Position · AWEL 002 004 Arc Weld Mild Steel in the 4F Position · AWEL 002 005 Arc Weld Mild Steel in the 1G Position · AWEL 002 006 Arc Weld Mild Steel in the 2G Position · AWEL 002 007 Arc Weld Mild Steel in the 3G Position · AWEL 002 008 Arc Weld Mild Steel in the 4G Position · AWEL 002 009 Arc Weld Mild Steel in the 5G Position · AWEL 002 010 Arc Weld Mild Steel in the 6G Position
Total			144		

1.5.4. Industrial Attachment:

Description
<p>Unit Code: WEC 001, Company visits</p> <p>Learners will be exposed in industry to welding related to the tasks learnt during their institutional training. A log book will be used to track exposure against the modules attended and to ensure learners are indeed exposed to tasks related to their training.</p>
Total 3 Months (in Minimum)

1.5.5. Final Project:

Unit Code	Unit Name	Pre Requisites	Learning Hours	Reference Unit Standard in Occupational Standards	Assessment Tools
WEE002	Combined Project	WEE001 Industrial Attachment	12		<ul style="list-style-type: none"> AWEL 002/061: Manufacture a Steel Window
Total			12		