Competency Standards for Caribbean Vocational Qualifications (CVQ)

CCMEM11205 Level I in Rigging

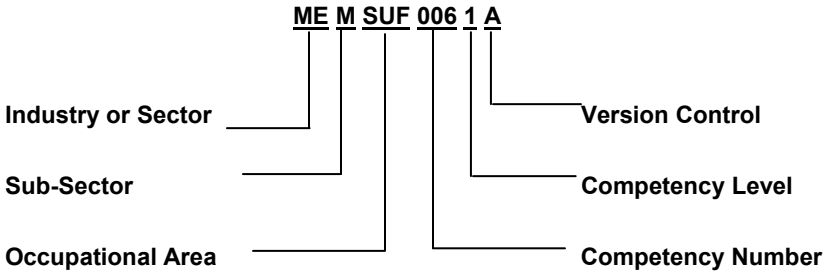
Unit Number	Unit Title	Mandatory /Elective	Hours
MEMCOR0051A	Perform related computations – (basic)	Mandatory	20
MEMCOR0131A	Undertake interactive workplace communication	Mandatory	20
MEMCOR0141A	Follow principles of Occupational Health and Safety (OH&S) in work environment	Mandatory	20
MEMCOR0161A	Plan to undertake a routine task	Mandatory	10
MEMCOR0191A	Use hand tools	Mandatory	5
MEMMRD0271A	Clean plant and equipment	Mandatory	5
MEMMAH0081A	Perform housekeeping duties	Mandatory	10
MEMMAH0071A	Perform manual handling and lifting	Mandatory	5
MEMMAH0091A	Perform pre-rigging testing and inspection	Mandatory	15
MEMMAH0101A	Perform basic rigging work	Mandatory	20
MEMMAH0141A	Operate basic lifting and load shifting equipment	Mandatory	15
MEMFAB0041A	Carry out mechanical cutting operations – (basic)	Elective	10
MEMFAB0081A	Assemble fabricated components – (basic)	Elective	40
MEMFAB0131A	Repair/replace/modify fabrications (Basic)	lective	
MEMMPO0011A	Perform daily operational maintenance of machines/equipment	Elective	15
ITICOR0011A	Carry out data entry and retrieval procedures	Elective	40
MEMMRD0191A	Assemble & Disassemble scaffolding to enable access to the work area	Elective	20
MEMMAH0121A	Perform basic dogging work	Elective	10
MEMMAH0161A	Perform intermediate rigging work	Elective	20
MEMMAH0052A	Erect/dismantle complex scaffolding and equipment	Elective	40
MEMMAH0122A	Rig and position fabrications – (steel sections)	Elective	20
MEMMAH0132A	Rig and position fabrications – (concrete sections)	Elective	20
BSBSBM0012A	Craft personal entrepreneurial strategy	Elective	50

To be awarded this Caribbean Vocational Qualification (CVQ) all core competency standards must be achieved. Electives achieved with the qualification will be awarded unit statement of competency.

The nominal training hours are a guide for planning the delivery of Training Programmes.

Legend to Unit Code

Example: MEMSUF0061A



KEY: Man – Mandatory; FAB – Fabrication; MAH – Machine Handling; MPO – Machine & Process Operations; MRD – Maintenance Repairs & Diagnostic; BSB Business Services (Industry); SBM – Small Business Management; ITI - Information Technology (Information); MEM – Metal Engineering (Maintenance)

MEMCOR0051A: Perform related computations – (basic)

Competency Descriptor: This unit deals with the skills and knowledge required to perform basic computations and effectively carry out measurements of work to required tolerance, and applies to all individuals working in the metal engineering and maintenance industry.

Competency Field: Maintenance and metal fabrication

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Apply four basic rules of calculation	1.1 Simple calculations are performed using four basic rules, addition, subtraction, multiplication and division.
	1.2 Concepts are understood and simple calculations are performed involving length, perimeter, angles, area and volume.
2. Perform basic calculations involving fractions and decimals	2.1 Simple calculations are performed involving fractions and mixed numbers using the four basic rules.
	2.2 Simple calculations are performed involving decimal fractions and mixed numbers using the four basic rules.

RANGE STATEMENT

This unit applies to simple projects applicable to:

- metal fabrication
- mechanical maintenance
- electrical/electronic maintenance
- manufacturing

Calculations may be performed using:

- pen
- paper
- calculator
- protractor

Basic numeracy skills below those described in this unit are not covered in these standards and are assumed to be held on entry to the industry. Basic numeracy means the ability to:

- perform simple arithmetic using whole numbers
- apply the four basic rules of:
- addition
- subtraction
- multiplication
- division

Computations performed in an appropriate application for the industry in which the person is working. Skills may be demonstrated in relation to:

- measurement
- statistical application
- ratio and proportion
- estimation
- calculations with fractions and decimals
- interpretation of drawings
- interpretation of diagrams
- interpretation of mathematical statements and formulae.
- interpretation of numbers and arithmetic operations.

EVIDENCE GUIDE

Competency is to be demonstrated by the effective calculation of measurements and calculation of materials in accordance with range of variables statement relevant to the work orientation.

(1) Critical Aspects of Evidence

During assessment the individual will:

- take responsibility for the quality of their own work
- perform computations in accordance with standard principles
- apply the four basic rules of calculations
- performs basic calculations involving fractions and decimals
- perform computations accurately
- use accepted motor vehicle repair techniques, practices, processes and workplace procedures.

All must be associated with the calculations and computations being performed or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- drawings and specifications
- basic operations in simple geometry,
- measurement and calculations
- costing relative to the automotive trade processes
- numbers and arithmetic operations
- calculations with fractions and decimals
- estimation and measurement
- percentages (some applications)
- ratio and proportion (some applications)
- basic statistics (data, tables, graphs and sales)
- mathematical statements and formulae

Skills
The ability to:

- read and interpret drawings
- measure and calculate manually
- record measurements
- operate electronic calculating devices
- communicate effectively

(4) Resource Implications

The candidate will be provided with:

- all tools, equipment, materials and documentation required.
- any relevant workplace procedures.
- any relevant product and manufacturing specifications.
- any relevant codes, standards, manuals and reference materials.

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor.
- present evidence of credit for any off-job training related to this unit.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of installation activities to which applicant has contributed, or worked on
- training courses on basic math
- examples of authenticated assessments and/or assignments from formal education courses
- self assessment reports
- simulation

Assessor must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

All tasks involved must be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMCOR0131A: Undertake interactive workplace communication

Competency Descriptor: This unit deals with the skills and knowledge required to effectively undertake interactive communication at the workplace, and applies to all individuals working in the metal, engineering and maintenance industry

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Communicate information about tasks, processes, events or skills	1.1 Information about tasks, processes, events or skills is communicated.
	1.2 Multiple operations involving several topics/areas are communicated.
	1.3 Listening is undertaken without continuous interruptions of the speaker.
	1.4 Questions are used to gain extra information.
	1.5 Correct sources of information are identified.
	1.6 Information is selected and sequenced appropriately.
	1.7 Verbal and written reporting is undertaken where required.
	1.8 Communication is demonstrated in both familiar and unfamiliar situations and to familiar and unfamiliar individuals and groups.
2. Take part in group discussion to achieve appropriate work outcomes	2.1 Responses sought and provided to others in the group.
	2.2 Constructive contributions are made in terms of the production process involved.
	2.3 Goals and aims are communicated.

RANGE STATEMENT

This unit covers competencies needed for situations where employees must collectively undertake a task eg: three or four assemblers co-operating to assemble a product, a trades person who has to attend a service call, or a group of process workers who undertake a similar task in close proximity to each other.

Techniques that could be used as the subject of communication includes but is not limited to:

- sketches
- drawings
- charts and maps
- telephone
- production schedules
- written machine or job instructions;
- client instructions
- face to face
- signage
- memos
- work schedules/work bulletins

EVIDENCE GUIDE

Competency is to be demonstrated by the effective use of methods of communication relating to instructions, information sources and meeting procedures listed within the range statement relative to the work orientation.

(1) Critical Aspects of Evidence

This unit should be assessed in conjunction with other specialisation or core units and not in isolation. The assessment should be linked with performance of normal workplace activities where the competency covered by this unit is demonstrated concurrently with other core or elective competencies. The communication tasks may be related to any aspect of the job, interacting with team members, receiving instructions, reporting and any other activity that requires communication with individuals or groups.

During assessment the individual will:

- demonstrate safe working practices at all times
- demonstrate the ability to undertake interactive workplace communication
- communicate information about processes, events or tasks being undertaken to ensure a safe and efficient working environment
- use accepted engineering techniques, practices, processes and workplace procedures.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- basic level of ability in speaking
- basic level in reading
- basic level in writing English
- basic numeracy
- work place safety requirements
- the use of work schedules, charts, work bulletins and memos

Skills
The ability to:

- work safely to instructions
- convey information in simple English to invoke correct actions

Basic numeracy means the ability to perform simple arithmetic using whole numbers applying the four basic rules of addition, subtraction, multiplication and division. The unit however does not refer to competence in English but in communication. English language ability should be professionally assessed.

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required.
- any relevant workplace procedures.
- any relevant product and manufacturing specifications.
- any relevant codes, standards, manuals and reference materials.

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor.
- identify colleagues who can be approached for the collection of competency evidence where appropriate.
- present evidence of credit for any off-job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The communication Activities undertaken should be consistent with the individual's field of work and be based on Interaction with others related to workplace tasks and procedures, tools, equipment, materials and Documentation relevant to that field of work. The competencies covered by this unit should be demonstrated by an individual working alone or as part of a team. Assessment should be conducted in an environment that the individual is familiar with.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMCOR0141A: Follow principles of Occupational Health and Safety (OH&S) in work environment

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform work activities to conform to Occupational Health and Safety requirements, and applies to all individuals working in the metal, engineering and maintenance industry.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Follow safe work practices	1.1 Work is carried out safely and in accordance with company policy and company procedures and industry requirements.
	1.2 Housekeeping is undertaken in accordance with company procedures.
	1.3 Responsibilities and duties of employees are understood and demonstrated in day-to-day actions.
	1.4 Personal protective equipment is worn and stored according to company procedures.
	1.5 All equipment and safety devices are used according to legislative requirements and company/manufacturer's procedures/instructions.
	1.6 Safety signs/symbols are identified and followed as per instruction.
	1.7 All manual handling is carried out in accordance with Industry requirements, company procedures and National Occupational Health & Safety guidelines.
	1.8 Occupational Health & Safety Commission guidelines demonstrated.
2. Report workplace hazards	2.1 Workplace hazards identified during the course of work are reported to appropriate person according to standard operating procedures/factory act.

3.	Follow emergency procedures	3.1	Means of contacting the appropriate personnel and emergency services in the event of an accident demonstrated.
		3.2	Emergency and evacuation procedure understood and carried out when required.

RANGE STATEMENT

This Occupational Health and Safety (OHS) unit applies to safe working practices as applied to all metal and engineering workplaces. Competencies to be demonstrated must be associated with performance of duties and use of specialist skills. This unit and these standards do not cover the skills of emergency teams such as fire fighting, first aid officer etc

Emergency procedures may include but not limited to the isolation of the following equipment as appropriate.

- electrical,
- mechanical
- hydraulic
- pneumatic
- emergency
- steam and water
- oxy fuel

Quality Assurance requirements may include:

- working environment/fellow workers
- adverse weather conditions
- protection of work personnel
- protection of public

Personal protective equipment may include but is not limited to:

- overalls, safety glasses/goggles, hard hat cap
- dust masks/respirator, gum boots
- ear plugs/muffs

Emergency procedures include:

- fire fighting
- medical and first aid
- evacuation

Power connections include:

- ELCB systems
- isolation transformer (safe-T-pack)
- power pole/B4
- switch board area

Ladders and work platforms include:

- extension ladders
- step ladders
- trestle ladders
- simple work platforms

Safety responsibilities apply to:

- personal protection
- safe interactive work practices (duty of care)
- Occupational Health and Safety (OHS) regulations
- National Environment and Planning agency (NEPA) regulations

EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively carrying out safe work practices within the range of variables statement relevant to the work orientation

(1) Critical Aspects of Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- demonstrate application of organizational policies and procedures including Quality Assurance requirements where applicable.
- carry out correct procedures prior to and during work activities.
- safe and effective operational use of tools, plant and equipment.
- carry out appropriate applications in accordance with regulatory and legislative requirements

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- basic level of ability in speaking
- basic level in reading & writing English
- workplace and equipment safety requirements
- material handling requirements
- relevant acts, regulations and codes of practice
- company policy

Skills
The ability to:

- work safely to instructions
- use tools and equipment safely
- select and use material equipment and tools to standards
- communicate effectively

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required.
- any relevant workplace procedures
- any relevant product and manufacturing specifications.
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor.
- identify colleagues who can be approached for the collection of competency evidence where appropriate.
- present evidence of credit for any off-job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace

(6) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. Aspects of this unit will need to be assessed in a work situation.

The context in which the OH & S principles are applied should be consistent with the individual's field of work. The competencies covered by this unit would be demonstrated by an individual working lone or as part of a team. Assessment should be conducted in an environment that the individual is familiar with.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMCOR0161A: Plan to undertake a routine task

Competency Descriptor: This unit deals with the skills and knowledge required to effectively plan to undertake a routine task and applies to all individuals working in the metal, engineering and maintenance industry.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Identify task requirements	1.1	Instructions as to procedures are obtained, understood and where necessary clarified.
		1.2	Relevant specifications for task outcomes are obtained, understood and where necessary clarified.
		1.3	Task outcomes are identified.
		1.4	Task requirements such as completion time and quality measures are identified.
2.	Plan steps required to complete task	2.1	Based on instructions and specifications provided, the individual steps or activities required to undertake the task are understood and where necessary clarified.
		2.2	Sequence of activities required to be completed is identified in plan.
		2.3	Planned steps and outcome are checked to ensure conformity with instructions and relevant specifications.
3.	Review plan	3.1	Outcomes are identified and compared with (planned) objectives, task instructions, specifications and task requirements.
		3.2	If necessary, plan is revised to better meet objectives and task requirements.

RANGE STATEMENT

This unit applies to the activities related to planning to undertake a routine task. The task and associated planning activity are carried out under supervision. The plan may or may not be documented. The task involves one or more steps or functions carried out routinely on a regular basis. The planning activity does not require the exercise of judgement as to priorities or time limitations, it requires that precise information provided in the instructions be accurately followed, steps in the process be completed in the appropriate sequence and that the time limits specified are met.

Instructions may include but not limited to:

- standard operation sheets
- clear specifications and requirements
- quality and time allowances
- standard operating procedures

EVIDENCE GUIDE

Competency is to be demonstrated by the effective use of planning activities relating to instructions, information sources and meeting procedures listed within the range statement relative to the work orientation

(1) Critical Aspects of Evidence

This unit should be assessed in conjunction with other specialisation or core units and not in isolation. The assessment should be linked with performance of normal workplace activities where the competency covered by this unit is demonstrated concurrently with other core or elective competencies. The assessment of this competency may be associated with the assessment of core or elective units that require planning for undertaking a routine task in the individual's field of work.

During assessment the individual will:

- demonstrate safe working practices at all times
- demonstrate the ability to plan to undertake a routine task
- communicate information about processes, events or tasks being undertaken to ensure a safe and efficient working environment
- take responsibility for the quality of their own work
- perform all tasks in accordance with standard operating procedures
- perform all tasks to specification
- use accepted engineering techniques, practices, processes and workplace procedures.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- basic level of ability in speaking
- basic level in reading
- basic level in writing English
- basic numeracy
- task requirements
- work place operating procedures
- the use of work schedules, charts, work bulletins and memos

Skills
The ability to:

- work safely to instructions
- convey information in simple English to invoke correct actions
- apply quality procedures
- read and interpret simple drawings, and specifications
- plan a routine task
- undertake a routine task

Basic numeracy means the ability to perform simple arithmetic using whole numbers applying the four basic rules of addition, subtraction, multiplication and division. The unit however does not refer to competence in English but in communication. English language ability should be professionally assessed

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required.
- any relevant workplace procedures.
- any relevant product and manufacturing specifications.
- any relevant codes, standards, manuals and reference materials.

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor.
- identify colleagues who can be approached for the collection of competency evidence where appropriate.
- present evidence of credit for any off-job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The communication Activities undertaken should be consistent with the individual's field of work and be based on Interaction with others related to workplace tasks and procedures, tools, equipment, materials and Documentation relevant to that field of work. The competencies covered by this unit would be Demonstrated by an individual working alone or as part of a team. Assessment should be Conducted in an environment that the individual is familiar with.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMCOR0191A: Use hand tools

Competency Descriptor: This unit deals with skills and knowledge required to competently select and use appropriate hand tools of the metal engineering and maintenance trades, and applies to all individuals in the industry.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Use hand tools	1.1 Selected appropriate hand tools according to the task requirements.
	1.2 Hand tools used to produce desired outcomes to job specifications which may include finish, tension, size or shape.
	1.3 Adhered to all safety requirements before, during and after use.
	1.4 Unsafe or faulty tools identified and marked for repair according to designated procedures before, during and after use.
	1.5 Carried out routine maintenance of tools, including hand sharpening according to standard operational procedures, principles and techniques.
	1.6 Hand tools are stored safely in appropriate location according to standard operational procedures and manufacturer's recommendations.

RANGE STATEMENT

Work undertaken under supervision or in a team environment using predetermined standards of quality, safety and workshop procedures involving the use of various hand tools for applications, maintenance tasks and the finishing of items or components metallic and non-metallic material to size and shape using engineering principles, tools, equipment and procedures.

Hand tools may include but not limited to:

- hacksaws
- hammers
- punches
- screwdrivers
- sockets
- wrenches
- scrapers
- chisels
- gouges
- wood planes
- files of all cross-sectional shapes and types.

Applications may include hand tools used for

- adjusting,
- dismantling
- assembling
- finishing
- cutting
- scraping
- cleaning,
- lubricating,
- tightening
- simple tool repairs
- hand sharpening
- adjustments

EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective use of particular hand tools listed within the range of variables statement relevant to the work orientation.

(1) Critical Aspects of Evidence

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with the use of hand tools or other units requiring the exercise of the skills and knowledge covered by this unit.

During assessment the individual will:

- demonstrate safe working practices at all times
- demonstrate the ability to use hand tools
- take responsibility for the quality of their own work
- plan tasks in all situations and review task requirements as appropriate
- perform all tasks in accordance with standard operating procedures
- perform all tasks to specification
- use accepted engineering techniques, practices, processes and workplace procedures.

(2) Pre-requisite Relationship of Units

This unit should not be selected if the hand tool is dedicated to a single operation or machine and if only a machine specific/customised tool is used. For using power tools used for hand held operations see Unit MEMCOR0111A (Use power tools).

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements and OH&S guidelines
- work shop procedures
- technical applications
- hand tools and equipment
- materials
- materials handling whilst operating tools

Skills
The ability to:

- work safely to instructions
- apply appropriate hand-eye co-ordination in the use of tools
- handle/hold materials during operation of tools
- select appropriate tools for material usage
- communicate effectively
- use tools correctly

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required.
- any relevant workplace procedures.
- any relevant product and manufacturing specifications.
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor.
- identify colleagues who can be approached for the collection of competency evidence where appropriate.
- present evidence of credit for any off-job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

MEMMRD0271A: Clean plant and equipment

Competency Descriptor: This unit refers to the cleaning of industrial plant, machinery and surrounds associated with industrial settings and related surroundings, and may include the appropriate removal of excess or oil based soil. It applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Metal Engineering Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and prepare work	1.1	OH&S requirements associated with application tasks and workplace environment are recognized and adhered to.
	1.2	Appropriate personal protective equipment is selected, correctly fitted and used.
	1.3	Quality Assurance requirements associated with company's operations is recognized and adhered to.
	1.4	Resources required to satisfy the work plan are identified, obtained and inspected for compliance with the job specifications
	1.5	Tools and equipment for cleaning is checked for serviceability and any faults reported to supervisor.
	1.6	Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications
	1.7	Work is planned in detail including sequencing & prioritising and considerations made where appropriate for the maintenance of plant security and capacity in accordance with system/site requirements
	1.8	Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work

2.	Clean plant and equipment	2.1	Required isolations are confirmed, where appropriate, in accordance with site requirements
		2.2	Surfaces are pre-applied, where required, with suitable agent to assist in release of soil in accordance with manufacturer's instructions
		2.3	Cleaning equipment and accessories are operated in accordance with manufacturer's instructions and work requirements.
		2.4	Plant and equipment is cleaned with due regard to nearby plant security and capacity in accordance with the work plan.
		2.5	Plant and equipment is cleaned in conjunction with others involved in, or affected by, the work in accordance with the work plan.
		2.6	Residual waste is directed to suitable disposal points in accordance with relevant environmental procedures or guidelines.
		2.7	Final job inspection is carried out in accordance with the work plan.
3.	Complete work	3.1	Work is completed and appropriate personnel notified in accordance with site/enterprise requirements
		3.2	Work area is cleared of waste, cleaned, restored and secured in with site/enterprise procedures
		3.3	Plant, tools and equipment are maintained and stored in accordance with site/enterprise procedures
		3.4	Work completion details are finalised in accordance with site/enterprise procedures

RANGE STATEMENT

Inspection should be planned with the appropriate parties to determine access, conditions and work requirements

Environmental requirements may refer to the provision of an area to be used for collection and disposal of soil residue or suitable drainage of residues

Resources may include:

- ladders
- scaffolding
- work platforms
- personal protective equipment
- barricades
- signs

Materials may include:

- cleaning agents
- strippers
- polishes
- degreasers
- disinfectant
- appropriate chemicals/solvents

Cleaning equipment may include:

- hoses
- lances
- steam cleaners
- brooms
- buckets
- shovels
- motor driven vacuum cleaners

Machinery cleaning methods may include:

- hosing down
- wash and wipe
- air clean
- brush down
- scrub and wipe

Potential hazards may include:

- rotating plant
- electrical equipment
- slippery surfaces
- airborne particulates
- confined spaces
- fumes and substances

Safety standards may include:

- relevant sections of occupational health and safety guidelines
- enterprise safety rules
- national guidelines

Information and documentation sources may include:

- verbal or written communications
- enterprise safety rules documentation
- enterprise operating instructions
- manufacturer's operational and maintenance manuals
- equipment and alarm manuals
- dedicated computer equipment
- standing enterprise instructions
- work plans
- plant notes and enterprise log books

EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction materials listed within the range of variables statement, relevant to the work orientation.

(1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and Industry guidelines applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of rigging processes
- Applying cleaning techniques and procedures
- Identifying and operating appropriate cleaning equipment
- Identifying and selecting appropriate cleaning methods
- demonstrate safe application in the process of cleaning up
- interactively communicate with others to ensure safe and effective operations

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant codes and regulations
- Occupational health and safety standards
- relevant standards, Industry requirements and codes of practice
- Relevant environmental requirements
- Plant and equipment
- Cleaning agents, lubricants and their properties
- Cleaning equipment and their accessories
- Hazardous materials
- Cleaning techniques and procedures
- Hand and portable power tools
- Communication principles

Skills
The ability to:

- apply occupational health and safety standards
- apply relevant environmental requirements
- identify and select appropriate cleaning methods
- identify and operate appropriate cleaning equipment
- handle hazardous materials
- use material safety data sheets
- apply cleaning techniques and procedures
- use hand and portable power tools
- communicate effectively

(4) Resource Implications

The following resources should be made available:

- general engineering and construction materials relative to construction processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to construction process

(5) Method of Assessment

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- training courses on material related to range of variables and or knowledge requirement.
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMAH0081A: Perform housekeeping duties

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform housekeeping duties. It applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	1.1 OH&S requirements associated with application tasks and workplace environment are recognized and adhered to.
	1.2 Appropriate personal protective equipment is selected, correctly fitted and used.
	1.3 Quality Assurance requirements associated with company's operations is recognized and adhered to.
	1.4 Tools and equipment for handling materials/goods, non-toxic waste is selected and is consistent with job requirements.
	1.5 Tools and equipment for handling materials/goods is checked for serviceability and any faults reported to supervisor.
2. Correctly manual handle, sort and stack engineering /construction material	2.1 Common engineering materials is recognized and selected for sorting and stacking/stockpiling to supervisor's instructions and/or specifications.
	2.2 Handling characteristics of materials are identified and appropriate handling techniques applied.
	2.3 Specific handling requirements for hazardous materials are applied.
	2.4 Materials are stored, stacked/stockpiled and protected clear of traffic ways so they can be easily identified and retrieved
	2.5 Appropriate signage and barricades are erected where applicable in order to isolate stored materials from workplace traffic or access.
	2.6 Correct manual handling techniques are used.

3.	Prepare for mechanical handling of materials	3.1	Materials are stacked/banded for mechanical handling in accordance with type of material and plant/equipment to be used.
		3.2	Rigger is assisted with the loading, unloading, moving, locating and/or installing materials.
		3.3	Materials are safely handled with assistance of pallet trolley, forklift or hoist.
4.	Handle and remove waste safely	4.1	Waste materials are handled correctly and safely according to OH&S and requirements of regulatory authorities.
		4.2	Hazardous materials are identified for separate handling.
		4.3	Non-toxic materials are removed using correct procedures.
		4.4	Dust suppression procedures are used to minimise health risk to work personnel and others.
5.	Clean up	5.1	Tools and equipment are cleaned, maintained, and stored.
		5.2	Unused materials are safely stacked/stockpiled stored.
		5.3	Waste materials are disposed of safely.
		5.4	Site is cleaned and cleared of debris and unwanted material.

RANGE STATEMENT

Competency is to be demonstrated by the effective use of techniques relating to instructions, information sources and meeting procedures listed within the range statement relative to the work orientation.

Tools and equipment includes but is not limited to:

- Brooms
- hoses
- shovels
- rakes
- wet and dry industrial vacuum cleaners
- wheelbarrows
- pallet trolley
- materials hoists
- forklifts
- buckets

- Engineering materials include but are not limited to:

- bricks and concrete masonry
- mortar components – cement, coarse aggregate, sand
- timber
- structural steel sections/components
- concrete
- scaffolding components, pipe sections
- plywood and particle board
- metal sheeting
- steel reinforcement
- insulation
- glass
- paints and sealants
- plaster sheeting

Protection of stacked/stored materials may include:

- covering
- tying or banding
- barricades
- signs
- locked away (hazardous materials)

Dust suppression procedures may include:

- spraying with water
- covering
- use of vacuum cleaner

Removal of materials to include processes of recycling and salvage where applicable.

OH&S requirements to be in accordance with (company/industry) guidelines and regulations.

Work to be undertaken as part of a team or individually under supervision of appropriately certificated persons where applicable.

Reporting of faults may be verbal or written.

EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction materials listed within the range of variables statement, relevant to the work orientation.

(1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and Industry guidelines applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of materials handling processes
- demonstrate safe and effective operational use of tools and equipment
- demonstrate safe application in the process of cleaning up
- interactively communicate with others to ensure safe and effective operations

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant codes and regulations
- hand tools and equipment
- materials
- materials handling
- Quality Assurance
- range of communication mediums (verbal and non-verbal)

Skills
The ability to:

- work safely to instructions
- use hand and portable tools
- handle materials
- identify/select material
- measure
- communicate effectively
- dispose of material safely
- use disposal equipment and tools as required

(4) Resource Implications

The following resources should be made available:

- general engineering and construction materials relative to construction processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to construction process
- OHSA information

(5) Method of Assessment

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

(6) Context of Assessment

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMAH0071A: Perform manual handling and lifting

Competency Descriptor: This unit deals with the skills and knowledge required to effectively manually handle materials as applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Material handling

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Lift materials manually	1.1 Material weight is determined correctly utilising most appropriate technique.
	1.2 Lifting techniques are undertaken to safe work standards, standard operating procedures. (Type of movement, methods of movement, storage condition, height and position).
2. Move/shift materials manually	2.1 Appropriate equipment are selected where required
	2.2 Material is placed safely and securely on moving equipment
	2.3 Material is relocated ensuring safety of personnel and security of material.
	2.4 Material is unloaded from moving equipment and placed in a safe and secure manner.

RANGE STATEMENT

Work undertaken under supervision or in a team environment. Material weight is determined utilising scales or interpreting signage. Maximum manual lifting weight limited to safe work standards. All work and work practices undertaken to regulatory and standard requirements and standard operating procedures where applicable.

Moving/shifting equipment may include but not limited to:

- hand trolleys
- wheelbarrows
- motorised/hand pallet trucks (not sit on),
- hand carts
- dedicated production or process lifting equipment
- baskets
- spreader bars
- cradles or the like attached to lifting equipment
- rope

EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively manually handling materials in accordance with the range listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to handling materials
- demonstrate safe and effective operational use of lifting equipment, tools, and attachments
- demonstrate correct procedures in manual handling
- give particular attention to safety and elimination of hazards
- demonstrate safe handling of material
- interactively communicate with others to ensure safe operations demonstrate effective handling technique to produce designed outcome

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling recording and reporting associated with manual handling or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant OH&S guidelines and regulations
- basic reading
- basic numeracy
- material classification
- manual handling technique(s)/methods
- handling processes
- material identification, transportation and storage
- handling tools and equipment
- materials preparation
- manual handling
- weight determination
- drawings, sketches, signage and instructions

Skills
The ability to:

- work safely to instructions
- communicate effectively
- interpret related drawings signage and instructions
- use handling tools and equipment
- identify/select material
- identify/select handling method
- handle material, tools and equipment
- determine weights
- identify/select materials relative to transportation and storage methods
- manual handle material/equipment efficiently

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMAH0091A: Perform pre-rigging testing and inspection

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform pre-rigging testing and inspection work associated with, but not limited to, movement of plant and equipment, particular hoists, safety nets and static lines, safety screens and shutters. It applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Material handling

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and prepare work	1.1	OH&S requirements associated with application tasks and workplace environment are recognized and adhered to.
	1.2	Appropriate personal protective equipment is selected, correctly fitted and used.
	1.3	Quality Assurance requirements associated with company's operations is recognized and adhered to.
	1.4	Tools and equipment for handling/rigging materials/goods, non-toxic waste is selected and is consistent with job requirements.
	1.5	Tools and equipment for rigging materials/goods is checked for serviceability and any faults reported to supervisor.
	1.6	Relevant plans, drawings and text are selected and interpreted in accordance with the work plan.
	1.7	Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications
	1.8	Work is planned in detail including sequencing & prioritising and considerations made where appropriate for the maintenance of plant security and capacity in accordance with system/site requirements
	1.9	Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work

2.	Perform pre rigging operations	2.1	Equipment and accessories are determined and confirmed in accordance with the work plan
		2.2	Appropriate lifting or pulling devices for the movement of load are tested and inspected in accordance with the work plan
		2.3	Loads are inspected using appropriate techniques and in accordance with the work plan
		2.4	Materials are inspected and protected clear of traffic ways so they can be easily identified and retrieved
3.	Complete work	3.1	Work is completed and appropriate personnel notified in accordance with site/enterprise requirements
		3.2	Work area is cleared of waste, cleaned, restored and secured in with site/enterprise procedures
		3.3	Plant, tools and equipment are maintained and stored in accordance with site/enterprise procedures
		3.4	Work completion details are finalised in accordance with site/enterprise procedures

RANGE STATEMENT

Tools and equipment includes but is not limited to:

- spanners
- hammers
- chain blocks
- pull lifts
- winches
- pinch bars
- clamps
- pulleys
- jacks
- skids
- rollers
- cradle timbers
- chocks and wedges packers
- fish plates and bolts
- feeler gauges
- turfe TRACOR0041A:rs and turn buckles

Engineering materials include but are not limited to:

- bricks and concrete masonry
- mortar components – cement, coarse aggregate, sand
- timber
- structural steel sections/components
- concrete
- scaffolding components, pipe sections
- plywood and particle board
- metal sheeting
- steel reinforcement
- insulation
- glass
- paints and sealants
- plaster sheeting

Protection of stacked/stored materials may include:

- covering
- tying or banding
- barricades
- signs
- locked away (hazardous materials)

Dust suppression procedures may include:

- spraying with water
- covering
- use of vacuum cleaner

Potential hazards may include:
Overhead services such as:

- steam
- gas
- water
- telephone
- power cables
- uneven or unstable ground, trees
- underground services
- buildings and structures

Other personnel and environmental influences such as:

- lighting
- noise
- temperature
- wind

Lifting equipment may include:

- chains
- spreader beams
- ropes
- wire ropes
- shackles and eye bolts

Resources may include:

- cranes
- hoists
- drawings/plans and personnel

Work completion details may include

- plant and maintenance records
- job cards
- check sheets
- updates and reporting and/or documenting equipment defects

Fixing and anchoring methods may include bolting

- wedging
- riveting and tying

EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction materials listed within the range of variables statement, relevant to the work orientation.

(1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and Industry guidelines applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of rigging processes
- demonstrate the ability to apply basic rigging techniques
- demonstrate the ability to test and inspect lifting gear
- demonstrate the ability to calculate load weights
- demonstrate safe and effective operational use of tools and equipment
- demonstrate safe application in the process of cleaning up
- interactively communicate with others to ensure safe and effective operations

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
knowledge of:

- workplace and equipment safety requirements including relevant codes and regulations
- Occupational health and safety standards
- relevant standards, industry requirements and codes of practice
- various types of slings and chains and their safe working load
- slinging techniques
- lifting gear/equipment
- hazard identification and control techniques
- load calculation techniques
- steel fixing techniques
- various cranes and hoists and their limitations
- various bolts and their tightening procedures
- safety equipment

- signaling methods
- communication principles
- range of communication mediums (verbal and non-verbal

Skills
The ability to:

- work safely to instructions
- use hand and portable tools
- apply occupational health and safety standards
- apply relevant standards
- apply industry requirements and codes of practice
- interpret and apply plans and procedures
- select and assemble lifting gear
- sling and direct loads
- calculate load weights
- Identify and apply hazard control measures
- use hand tools
- bolt and fix steel work
- work at heights
- Interpret and apply appropriate signaling techniques
- apply anchoring techniques
- apply basic rigging techniques
- carry out work completion details
- communicate effectively

(4) Resource Implications

The following resources should be made available:

- general engineering and construction materials relative to construction processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to construction process
- OHSA information

(5) Method of Assessment

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- training courses on material related to range of variables and or knowledge requirement
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMAH0101A: Perform basic rigging work

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform rigging work associated with, but not limited to, movement of plant and equipment, particular hoists, safety nets and static lines, safety screens and shutters. It applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Material Handling

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and prepare work	1.1	OH&S requirements associated with application tasks and workplace environment are recognized and adhered to.
	1.2	Appropriate personal protective equipment is selected, correctly fitted and used.
	1.3	Quality Assurance requirements associated with company's operations is recognized and adhered to.
	1.4	Tools and equipment for handling/rigging materials/goods, non-toxic waste is selected and is consistent with job requirements.
	1.5	Tools and equipment for rigging materials/goods is checked for serviceability and any faults reported to supervisor.
	1.6	Relevant plans, drawings and text are selected and interpreted in accordance with the work plan.
	1.7	Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications
	1.8	Work is planned in detail including sequencing & prioritising and considerations made where appropriate for the maintenance of plant security and capacity in accordance with system/site requirements
	1.9	Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work

2.	Perform basic rigging operations	2.1	Load weight calculated/determined and confirmed in accordance with the work plan
		2.2	Appropriate lifting or pulling devices for the movement of load are assembled or erected in accordance with the work plan
		2.3	Loads are connected to movement device using appropriate techniques and load connection equipment in accordance with the work plan
		2.4	Materials are stored, stacked/stockpiled and protected clear of traffic ways so they can be easily identified and retrieved
		2.5	Loads are lifted/moved in accordance with appropriate methods, techniques, hazard prevention and control measures, and manufacturer's recommendations/ specifications
		2.6	Communications and signal methods appropriate to the work are selected and used in accordance with relevant industry standards/requirements
		2.7	Load is directed to required position using appropriate signals in accordance with industry standards/requirements
		2.8	Load is lowered to required position and fixed/anchored in position using appropriate methods in accordance with manufacturer's specifications and work plan
		2.9	Load shifting equipment is dismantled, removed and inspected for wear in accordance with accepted codes of practice and the work plan
3.	Complete work	3.1	Work is completed and appropriate personnel notified in accordance with site/enterprise requirements
		3.2	Work area is cleared of waste, cleaned, restored and secured in with site/enterprise procedures
		3.3	Plant, tools and equipment are maintained and stored in accordance with site/enterprise procedures
		3.4	Work completion details are finalised in accordance with site/enterprise procedures

RANGE STATEMENT

Tools and equipment includes but is not limited to:

- spanners
- hammers
- chain blocks
- pull lifts
- winches
- pinch bars
- clamps
- pulleys
- jacks
- skids
- rollers
- cradle timbers
- chocks and wedges packers
- fish plates and bolts
- feeler gauges
- turfers and turn buckles

Protection of stacked/stored materials may include:

- covering
- tying or banding
- barricades
- signs
- locked away (hazardous materials)

Dust suppression procedures may include:

- spraying with water
- covering
- use of vacuum cleaner

Potential hazards may include:
Overhead services such as:

- steam
- gas
- water
- telephone
- power cables
- uneven or unstable ground, trees
- underground services
- buildings and structures

Engineering materials include but are not limited to:

- bricks and concrete masonry
- mortar components – cement, coarse aggregate, sand
- timber
- structural steel sections/components
- concrete
- scaffolding components, pipe sections
- plywood and particle board
- metal sheeting
- steel reinforcement
- insulation
- glass
- paints and sealants
- plaster sheeting

Lifting equipment may include:

- chains
- spreader beams
- ropes
- wire ropes
- shackles and eye bolts

Resources may include:

- cranes
- hoists
- drawings/plans and personnel

Work completion details may include

- plant and maintenance records
- job cards
- check sheets
- updates and reporting and/or documenting equipment defects

Other personnel and environmental influences such as:

- lighting
- noise
- temperature
- wind

Fixing and anchoring methods may include bolting

- wedging
- riveting and tying

EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction materials listed within the range of variables statement, relevant to the work orientation.

(1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and Industry guidelines applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of rigging processes
- demonstrate the ability to apply basic rigging techniques
- demonstrate the ability to select and assemble lifting gear
- demonstrate the ability to apply anchoring techniques
- demonstrate the ability to sling and direct loads
- demonstrate the ability to calculate load weights
- demonstrate safe and effective operational use of tools and equipment
- demonstrate safe application in the process of cleaning up
- interactively communicate with others to ensure safe and effective operations

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
knowledge of:

- workplace and equipment safety requirements including relevant codes and regulations
- Occupational health and safety standards
- relevant standards, industry requirements and codes of practice
- various types of slings and chains and their safe working load
- slinging techniques
- lifting gear/equipment
- hazard identification and control techniques
- load calculation techniques
- steel fixing techniques
- various cranes and hoists and their limitations
- various bolts and their tightening procedures
- safety equipment
- signalling methods
- communication principles
- range of communication mediums (verbal and non-verbal)

Skills
The ability to:

- work safely to instructions
- use hand and portable tools
- apply occupational health and safety standards
- apply relevant standards
- apply industry requirements and codes of practice
- interpret and apply plans and procedures
- select and assemble lifting gear
- sling and direct loads
- calculate load weights
- Identify and apply hazard control measures
- use hand tools
- bolt and fix steel work
- work at heights
- Interpret and apply appropriate signaling techniques
- apply anchoring techniques
- apply basic rigging techniques
- carry out work completion details
- communicate effectively

(4) Resource Implications

The following resources should be made available:

- general engineering and construction materials relative to construction processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to construction process
- OHSA information

(5) Method of Assessment

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- training courses on material related to range of variables and or knowledge requirement
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMAH0141A: Operate basic lifting and load shifting equipment

Competency Descriptor: This unit refers to the operation of specified cranes and lifting equipment that does not require a licence and that may be used to facilitate the installation, modification or maintenance of equipment. It applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Metal Engineering Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and prepare work	1.1	OH&S requirements associated with application tasks and workplace environment are recognized and adhered to.
	1.2	Appropriate personal protective equipment is selected, correctly fitted and used.
	1.3	Quality Assurance requirements associated with company's operations is recognized and adhered to.
	1.4	Tools and equipment for handling/rigging materials/goods, non-toxic waste is selected and is consistent with job requirements.
	1.5	Tools and equipment for rigging materials/goods is checked for serviceability and any faults reported to supervisor.
	1.6	Relevant plans, drawings and text are selected and interpreted in accordance with the work plan.
	1.7	Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications
	1.8	Work is planned in detail including sequencing & prioritising and considerations made where appropriate for the maintenance of plant security and capacity in accordance with system/site requirements
	1.9	Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work

2.	Operate the equipment	2.1	Pre-operational checks are conducted on equipment and attachments to ensure readiness for operation in accordance with manufacturer instructions/operating manual
		2.2	Communication and signal methods appropriate to the task are interpreted and applied in accordance with relevant industry standards and enterprise procedures
		2.3	Equipment is positioned and set up using correct pro in accordance with job requirements
		2.4	Controls and levers are applied to ensure safe and effective operation of equipment in accordance with manufacturer's instructions
		2.5	Trial lifts are conducted for loads of near capacity or unusual proportions and inspections made to ensure load is correctly slung and lifting equipment is functioning in accordance with manufacturer's specifications
		2.6	Speed and operation of equipment is in accordance with manufacturer's specification and job/industry requirements
		2.7	Equipment operations are conducted in accordance with the work plan whilst paying due regard to the security of the surrounds
		2.8	Appropriate load shifting device(s) selected
		2.9	Load is hoisted, manoeuvred and into position using all relevant equipment movements
3	Conductor operator maintenance	3.1	Inspection and fault finding are conducted in accordance with manufacturer's specifications or enterprise requirements
		3.2	Operational servicing and minor maintenance is carried out to manufacturer's specifications or enterprise requirements
4.	Complete work	4.1	Work is completed and appropriate personnel notified in accordance with site/enterprise requirements
		4.2	Work area is cleared of waste, cleaned, restored and secured in with site/enterprise procedures

4.3 Plant, tools and equipment are maintained and stored in accordance with site/enterprise procedures

4.4 Work completion details are finalised in accordance with site/enterprise procedures

RANGE STATEMENT

Tools and equipment includes but is not limited to:

- spanners
- hammers
- chain blocks
- pull lifts
- winches
- pinch bars
- clamps
- pulleys
- fish plates and bolts
- feeler gauges
- turfers and turn buckles
- rollers
- cradle timbers
- chocks and wedges packers
- jacks
- skids

Engineering materials include but are not limited to:

- bricks and concrete masonry
- mortar components – cement, coarse aggregate, sand
- timber
- structural steel sections/components
- concrete
- scaffolding components, pipe sections
- plywood and particle board
- metal sheeting
- steel reinforcement
- insulation
- glass
- paints and sealants
- plaster sheeting

Protection of stacked/stored materials may include:

- covering
- tying or banding
- barricades
- signs
- locked away (hazardous materials)

Dust suppression procedures may include:

- spraying with water
- covering
- use of vacuum cleaner

Lifting equipment may include:

- chains
- spreader beams
- ropes
- wire ropes
- shackles and eye bolts

Load shifting equipment may include:

- slings
- rope
- shackles
- eye bolts and spreader beams

Potential hazards may include:

- trees
- overhead services such as steam, gas, water, telephone and power cables
- uneven or unstable ground
- underground services buildings/vessels/structures/equipment
- hazardous materials and substances
- other personnel
- environmental influences such as lighting, noise, temperature and wind

Other personnel and environmental influences such as:

- lighting
- noise
- temperature
- wind

Resources may include:

- cranes
- hoists
- drawings/plans and personnel

Appropriate signals and communication methods may include:

- verbal
- hand signals
- whistles
- hooters
- two way radios/telephones and lights (all to the relevant industry standard

Fixing and anchoring methods may include bolting

- wedging
- riveting and tying

Work completion details may include

- plant and maintenance records
- job cards
- check sheets
- updates and reporting and/or documenting equipment defects

EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction/engineering materials listed within the range of variables statement, relevant to the work orientation.

(1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and Industry guidelines applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of rigging processes
- demonstrate the ability to direct the movement of loads
- demonstrate the ability to working at heights
- demonstrate the ability to interpret and apply appropriate signalling techniques
- demonstrate safe and effective operational use of tools and equipment
- interactively communicate with others to ensure safe and effective operations

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant codes and regulations
- Occupational health and safety standards
- relevant standards, industry requirements and codes of practice
- various types of slings and chains and their safe working load
- slinging techniques
- lifting gear/equipment
- hazard identification and control techniques
- load calculation techniques
- steel fixing techniques
- various cranes and hoists and their limitations
- various bolts and their tightening procedures
- safety equipment
- signalling methods
- communication principles
- range of communication mediums (verbal and non-verbal)

Skills
The ability to:

- work safely to instructions
- use hand and portable tools
- apply occupational health and safety standards
- apply relevant standards
- apply industry requirements and codes of practice
- interpret and apply plans and procedures
- select and assemble lifting gear
- sling and direct loads
- calculate load weights
- Identify and apply hazard control measures
- use hand tools
- bolt and fix steel work
- work at heights
- Interpret and apply appropriate signalling techniques
- apply anchoring techniques
- apply basic dogging techniques
- carry out work completion details
- communicate effectively.

(4) Resource Implications

The following resources should be made available:

- general engineering and construction materials relative to construction processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to construction process
- OHSA information

(5) Method of Assessment

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work. Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- training courses on material related to range of variables and or knowledge requirement.
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMFAB0041A: Carry out mechanical cutting operations – (basic)

Competency Descriptor: This unit deals with the skills and knowledge required to effectively carry out mechanical cutting as applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine job requirements	1.1	Job specification and requirements are determined from job sheets and/or instructions.
		1.2	Appropriate method/machine is selected to meet specifications.
		1.3	Machine is loaded and adjusted appropriately for operation and is consistent with standard operating procedures.
2.	Select/set up machine tooling	2.1	Selected most appropriate tooling.
		2.2	Installed tooling correctly using standard operating procedures.
		2.3	Machine is set up and adjusted using standard operating.
3.	Operate mechanical cutting machine	3.1	Appropriate stops and guards are set and adjusted as required.
		3.2	Material is secured and correctly positioned using measuring equipment as necessary.
		3.3	Machine is started and stopped safely to standard operating procedures.
		3.4	Machine is operated to cut/hole material to specifications using standard operating procedures.
		3.5	Lubricant used as required.
		3.6	Appropriate safety precautions are taken.
4.	Check material for conformance to specification	4.1	Material is checked against specification.
		4.2	Machine and/or tooling is adjusted as required

4.3 Material is cut and/or holed to within workplace tolerances.

4.4 Material used in most economical way.

4.4 Codes and standards are observed.

RANGE STATEMENT

This unit may cover the operation of a number of the following activities:

- sawing
- shearing
- cropping
- holing /boring

Materials may include:

- ferrous metals
- non-ferrous metals
- non-metallic products

Examples of machines that could be covered include:

- guillotines
- croppers
- cold saws
- band saws
- automatic saws

Work is undertaken under supervision or as part of a team environment to predetermined:

- standards of quality
- safety
- workshop procedure.

This unit includes the set up and operation of a range of:

- mechanical cutting equipment
- holing /holing equipment

Typical applications of this unit may include cutting for:

- manufacture
- production
- cutting of materials selected from stores in a maintenance environment
- fabrication

EVIDENCE GUIDE

Competency is to be demonstrated safely and effectively when cutting material in accordance with the range listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to setting up mechanical cutting equipment and during the cutting process
- demonstrate safe and effective operational use of tools, plant and equipment
- demonstrate correct procedures in setting up cutting equipment
- give particular attention to safety and elimination of hazards
- demonstrate safe handling of material
- interactively communicate with others to ensure safe operations
- demonstrate effective cutting to produce designed cut material

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with the mechanical cutting of materials or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

This unit does not cover hand or hand held power tools used for cutting purposes eg: circular saws, nibblers and side grinder. These skills are covered by other units; see Unit MEMCOR0191A (Use hand tools) and Unit MEMCOR0111A (Use power tools).

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant OH&S legislation and regulations
- cutting equipment
- cutting processes operations or activities
- hand tools and equipment
- materials relative to cutting processes
- materials preparation
- manual handling
- measurement
- drawings, sketches and instructions

Skills
The ability to:

- work safely to instructions
- interpret relative drawings and instructions
- use power tools and hand tools
- select material
- measure relative to cutting processes
- communicate effectively

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required.
- any relevant workplace procedures.
- any relevant product and manufacturing specifications.
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor.
- identify colleagues who can be approached for the collection of competency evidence where appropriate.
- present evidence of credit for any off-job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMFAB0081A: Assemble fabricated components - (basic)

Competency Descriptor: This unit deals with the skills and knowledge required to effectively assemble fabricated components as applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Identify assembly method and construct jigs as required	1.1	Methods are identified and jigs constructed from engineering drawings or according to workshop practice.
		1.2	Distortion prevention/control techniques are correctly applied
2.	Ensure all components for assembly are available	2.1	All components are checked against drawings and material list.
3.	Select tools and fixtures for fabrication assembly	3.1	Most appropriate equipment are selected.
4.	Assemble fabricated components	4.1	Material and/or fabricated components are correctly positioned.
		4.2	Jigs, fixtures, tools and measuring equipment are correctly adjusted and applied.
		4.3	Datum line is correctly determined as necessary.
		4.4	Assembled components are checked for position including squareness, level and alignment according to specification.
		4.5	Fixing/joining techniques are applied as necessary according to standard operating procedure.
		4.6	Assembly are checked for compliance with drawing.
		4.7	Relevant codes/standards are interpreted and applied.

RANGE STATEMENT

All work would be carried out in accordance with standard requirements. Work would be undertaken using general fabricated components in plate, pipe and section or sheet. Work may be undertaken in plant or on-site. Work would be undertaken under supervision as part of a team.

Typical applications are:

- transitions,
- pipe-works
- structural fabrication
- angular location
- ductwork
- general jobbing work
- fired and unfired pressure vessels

In this unit alignment refers to:

- typical structural alignment
- levelling using planes
- water levels
- straight edges
- spirit levels
- line levels
- squares

EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively undertake fabrication, forming, bending and shaping operations in accordance with the range listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to assembling fabricated components
- demonstrate safe and effective operational use of tools, plant and equipment
- demonstrate correct procedures in setting up assembling equipment
- give particular attention to safety and elimination of hazards
- demonstrate safe handling of material and tools
- interactively communicate with others to ensure safe operations
- demonstrate effective assembling technique(s) to produce designed outcome

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling recording and reporting associated with the assembly of fabricated components or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

- MEMCOR0141A Apply principles of occupational health and safety (OH&S) in work environment
- MEMCOR0161A Plan and undertake a routine task
- MEMCOR0171A Use graduated measuring devices
- MEMFAB0041A Carry out mechanical cutting operations

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant OH&S legislation and regulations
- assembly methods
- distortion prevention/control techniques
- assemble equipment
- hand tools and equipment
- jigs, fixtures, tools and measuring equipment relative to assembling fabricated components
- materials preparation
- manual handling and lifting
- measurement
- drawings, sketches and instructions

Skills
The ability to:

- work safely to instructions
- plan to undertake a routine assembly task
- interpret relative drawings and instructions
- use power tools and hand tools
- select tools and fixtures for fabricated assembly
- measure relative to the assembly processes
- communicate effectively
- assemble fabricated components accurately and efficiently

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures.
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor.
- identify colleagues who can be approached for the collection of competency evidence where appropriate.
- present evidence of credit for any off-job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMFAB0131A: Repair/replace/modify fabrications (Basic)

Competency Descriptor: This unit deals with the skills and knowledge required to effectively repair/replace/modify fabrications and applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Assess and process repair /replacement/modification requirement	1.1 Work requirement are determined from job sheet, instruction or visual inspection.
	1.2 Specifications and drawings are obtained, interpreted and understood where required.
	1.3 Fabrications are inspected and suitability for repair/replacement /modification determined.
2. Assess and process material requirements	2.1 Material requirements are assessed in accordance with relevant codes, manufacturer's specifications and standard operating procedures.
	2.2 Materials are obtained/requisitioned in accordance with standard operating procedures.
	2.3 Tool and equipment requirements are assessed and obtained, where required
3. Prepare materials	3.1 Fabrication for repair/replacement and/or modification is prepared in accordance with specifications using acceptable workplace practices, tools and equipment.
	3.2 Materials are marked out and prepared to specifications with minimum wastage using correct principles, tools, equipment and procedures.
	3.3 Material or item for repair, replacement and/or modification is cut, bent, rolled, shaped or formed to specifications using appropriate fabrication techniques/procedures, tools and equipment.
	3.4 Where required, items are marked for identification.

4.	Repair/replacement or modification carried out	4.1	Using appropriate clamping methods, equipment, jigs and fixtures, materials are positioned and clamped for welding.
		4.2	Pre-tack checks are undertaken and compliance with specifications determined prior to tack welding in position.
		4.3	Welding equipment is prepared and settings adjusted according to requirements.
		4.4	Immediate work site environment is checked to ensure compliance with safety requirements and procedures.
		4.5	Material or item is tack-welded using appropriate distortion minimisation techniques and procedures.
		4.6	Material or item is checked against specifications prior to welding.
		4.7	Material or item is welded to specifications using appropriate techniques and procedures.
5.	Repair, replacements and/or modification finished and inspected	5.1	Repair, replacement and/or modification cleaned and finished to specifications using appropriate workplace practices.
		5.2	Welds are visually inspected to assess weld quality against predetermined specifications.
		5.3	Completed repair, replacement and/or modification are assessed against specifications.
		5.4	Maintenance report is prepared and lodged in accordance with standard operating procedures.

RANGE STATEMENT

This unit should be selected where an integrated level of skills in fabrication maintenance and repair is required. This unit is intended to build on skills covered by the specialist prerequisites.

If individual skills are required specialist units only should be selected. Work undertaken under supervision or in a team environment using predetermined standards of quality, safety and workplace procedures in the repair, replacement and/or modification of fabrications.

Work may be carried out in workshop or on-site environments utilising welding and fabrication techniques, processes, tools, equipment and procedures on a range of materials.

Processes may involve the simple mark out of materials, setting up and operation of a variety of welding and cutting plant/equipment.

Materials and supplies may include:

- low carbon steel(mild steel) sheet up to 10 gauge
- low carbon steel plate up to 7mm
- steel and galvanized pipes up to 50mm
- appropriate size welding electrodes
- appropriate type and size welding filler rods
- aluminum sections/sheet

Setting up may include the correct connection of:

- hoses
- blowpipes
- regulators
- settings of gas mixtures
- welding machine (AC and DC arc welding plants)
- welding machine (MIG welding plants)
- welding cables and welding clamps/holders
- welding tip preparation
- auxiliary equipment

Preparation of materials would be minimal and may include but not limited to:

- preheating
- setting up jigs,
- setting up fixtures
- setting up clamps
- cleaning up material
- joint preparation (lap, vee, butt and tee)

Location/condition may include:

- workshops
- plants
- in the field
- confined spaces
- elevated positions
- damp and wet situations

Protective clothing may include:

- safety boots
- safety helmet
- welding helmet
- coverall
- leggings
- gloves

EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively repair/replace/modify fabrications in accordance with the range listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to repairing/replacing/modifying fabrications and during the process
- demonstrate safe and effective operational use of tools, plant and equipment
- demonstrate correct procedures in repairing/replacing/modifying fabrications
- give particular attention to safety and elimination of hazards
- demonstrate safe handling of material
- interactively communicate with others to ensure safe operations
- demonstrate effective skills to produce designed outcome

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with the repair, replacement and/or modification of fabrications or other units requiring the exercise of the skills and knowledge covered by this unit.

(2) Pre-requisite Relationship of Units

- MEMCOR0141A Apply principles of occupational health and safety (OH&S) in work environment
- MEMCOR0161A Plan and undertake a routine task
- MEMCOR0171A Use graduated measuring devices
- MEMFAB0041A Carry out mechanical cutting
- MEMCOR0091A Draw and interpret sketches and simple drawings
- MEMCOR0191A Use hand tools
- MEMCOR0111A Use power tools
- MEMFAB0111A Weld using manual metal arc welding process (MMAW)
- MEMFAB0121A Weld using oxyacetylene welding process (OAW) fuel gas welding

Where additional or more complex marking out skills are required, refer to Unit MEMCOR0092A (Mark off/out structural fabrications and shapes). If machines and equipment for forming, bending or shaping are required, Unit MEMFAB0071A (Undertake fabrication, forming, bending and shaping) should be accessed.

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant OH&S legislation and regulations
- assembly methods
- assemble equipment
- hand tools and equipment
- jigs, fixtures, tools and measuring equipment relative to repairing, replacing and modifying fabrications
- materials preparation
- manual handling
- measurement
- drawings, sketches and instructions

Skills
The ability to:

- work safely to instructions
- plan to undertake a routine fabrication task
- interpret relative drawings and instructions
- use power tools and hand tools
- select tools and fixtures for repairing, replacing and modifying fabrications
- measure relative to the fabrication processes
- communicate effectively
- repair, replace and modify fabricated components efficiently

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor
- identify supervisors/colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities.

(6) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMPO0011A: Perform daily operational maintenance of machines/equipment

Competency Descriptor: This unit deals with skills and knowledge required to competently perform daily operational maintenance of machines/equipment and applies to and applies to individuals in the industry.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Undertake programmed safety and maintenance checks	1.1 Checks are undertaken safely and to prescribed procedure.
	1.2 Status/report are recorded on check sheet or reported orally.
2. Undertake programmed maintenance	2.1 Removal/replacement of consumable and components are undertaken to prescribed procedure and instructions are followed.
	2.2 Fluids and lubricants are replaced and/or topped up to prescribed schedule.

RANGE STATEMENT

Work undertaken under supervision or in a team environment to predetermined specifications.

Machines/equipment range includes manuals, semi-automatic and automatic machines of a stand-alone continuous production or process nature.

Consumable replacements include air filter, oil wipers, grease containers, tool tips, indicator globes, fluids and lubricants, guides and limit switch actuators.

Adjustments are of a limited nature and include safety guards, stops, wear pads and tool holders, nipping up of glands and adjustment of scrapers and aprons etc.

Hand tools may include but not limited to:

- hacksaws
- hammers
- punches
- screwdrivers
- sockets
- wrenches
- scrapers
- chisels
- gouges
- wood planes
- files of all cross-sectional shapes and types.

Applications may include hand tools used for

- adjusting,
- dismantling
- assembling
- finishing
- cutting
- scraping
- cleaning,
- lubricating,
- tightening
- simple tool repairs
- hand sharpening
- adjustments

Location/condition may include:

- workshops
- plants
- in the field
- confined spaces
- elevated positions
- damp and wet situations

Protective clothing may include:

- safety boots
- safety helmet
- welding helmet
- coverall
- leggings
- gloves

EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively performing routine operational maintenance of machines/equipment in accordance with the range listed within the range of variables statement.

(1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to performing routine operational maintenance of machines/equipment
- demonstrate safe and effective operational use of tools, plant and equipment
- demonstrate correct procedures in performing programmed maintenance checks
- demonstrate correct procedures in starting and stopping machines/equipment

- give particular attention to safety and elimination of hazards
- demonstrate safe handling of material
- interactively communicate with others to ensure safe operations
- demonstrate effective engineering techniques to produce designed outcome

(2) Pre-requisite Relationship of Units

- MEMCOR0141A (Follow principles of occupational health and safety (OH&S) in work environment)
- MEMCOR0161A (Plan and undertake a routine task)

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- Occupational Health and Safety regulations
- basic measuring devices
- standard machines/equipment range
- standard consumable replacements
- standard machine/equipment adjustments
- reading
- writing basic English
- basic numeracy

Skills
The ability to:

- follow safely to instructions
- use power tools and hand tools
- use measuring devices
- adjust measurements
- handle materials
- select material
- apply quality assurance
- perform operational maintenance of machines/equipment

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor.
- identify colleagues who can be approached for the collection of competency evidence where appropriate.
- present evidence of credit for any off-job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- training courses on material related to range of variables and or knowledge requirement
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. The competencies covered by this unit would be assessment environment should not disadvantage the candidate.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

ITICOR0011A: Carry out data entry and retrieval procedures

Competency Descriptor: This unit deals with the skills and knowledge required to operate computer to enter, manipulate and retrieve data and to access information and communicate via the Internet.

Competency Field: Information Technology and Communications - Operations

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Initiate computer system	1.1	Equipment and work environment are correctly checked for readiness to perform scheduled tasks.
		1.2	The hardware components of the computer and their functions are correctly identified.
		1.3	Equipment is powered up correctly.
		1.4	Access codes are correctly applied.
		1.5	Appropriate software is selected or loaded from the menu.
2.	Enter data	2.1	Types of data for entry correctly identified and collected.
		2.2	Input devices selected and used are appropriate for the intended operations.
		2.3	Manipulative procedures of Input device conform to established practices.
		2.4	Keyboard/mouse is operated within the designated speed and accuracy requirements.
		2.5	Computer files are correctly located or new files are created, named and saved.
		2.6	Data is accurately entered in the appropriate files using specified procedure and format.
		2.7	Data entered is validated in accordance with specified procedures.
		2.8	Anomalous results are corrected or reported in accordance with specified procedures.
		2.9	Back-up made in accordance with operating procedures.

3.	Retrieve data	3.1	The identity and source of information is established.
		3.2	Authority to access data is obtained where required.
		3.3	Files and data are correctly located and accessed.
		3.4	Integrity and confidentiality of data are maintained.
		3.5	The relevant reports or information retrieved using approved procedure.
		3.6	Formats to retrieved report or information conform to that required.
		3.7	Copy of the data is printed where required.
4.	Amend data	4.1	Source of data/information for amendment is established.
		4.2	Data to be amended is correctly located within the file.
		4.3	The correct data/Information is entered, changed or deleted using appropriate input device and approved procedures.
		4.4	The Integrity of data is maintained.
5.	Use document layout and data format facilities	5.1	Requirements for document are verified where necessary.
		5.2	The given format and layout are appropriately applied.
		5.3	Facilities to achieve the desired format and layout are correctly identified, accessed and used.
		5.4	Data manipulating facilities are used correctly.
		5.5	Format reflects accuracy and completeness.
6.	Monitor the operation of equipment	6.1	The system is monitored to ensure correct operation of tasks.
		6.2	Routine system messages are promptly and correctly dealt with.
		6.3	Non-routine messages are promptly referred in accordance with operating requirements.

		6.4	Error conditions within level of authority are dealt with promptly, and uncorrected errors are promptly reported.
		6.5	Output devices and materials are monitored for quality.
7.	Access and transmit information via the Internet	7.1	Access to the Internet is gained in accordance with the provider's operating procedures.
		7.2	Evidence of the ability to negotiate web sites to locate and access specified information and other services is efficiently demonstrated.
		7.3	E-Mail is sent and retrieved competently.
8.	Close down computer system	8.1	The correct shut down sequence is followed.
		8.2	Problem with shutting down computer is reported promptly.
		8.3	All safety and protective procedures are observed.
		8.4	The system integrity and security are preserved.
9.	Maintain computer equipment	9.1	Cleaning materials and/or solutions used meet specified recommendation.
		9.2	The equipment is cleaned as directed.
		9.3	Wear and faults identified are promptly reported to the appropriate personnel.

RANGE STATEMENT

This unit applies to activities associated with essential operations linked to using and maintaining basic computer equipment.

Equipment:

- install supplied computer
- install supplied peripherals

Work environment:

- equipment
- furniture
- cabling
- power supply

Input devices:

- keyboard
- mouse
- scanner
- microphone
- camera

Software systems to include for:

- word processing
- spread sheet
- internet access

Files save on:

- network
- magnetic media
- personal PC

Data:

- textual
- numerical
- graphical

File operations:

Naming, updating, archiving, traversing field and records in database, use of search, sort, print

Maintenance:

- cleaning: enclosures, screen, input devices, output devices
- checking cables, etc

EVIDENCE GUIDE

Competency is to be demonstrated by the ability to accurately carry out basic data entry and retrieval operations on a computer system in accordance with the performance criteria and the range listed within the range of variables statement.

(1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- Initiate the use on the equipment.
- Use document layout and data format facilities.
- Locate and access data.
- Use file operations.
- Manipulate input devices.
- Key-in and format reports.
- Access to the internet.

(2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
knowledge of:

- safety for working with and around computers
- computer hardware and software systems
- procedure for initiating and closing down computer
- the operation of the data entry management system
- methods of locating files
- organisation's standards applicable to accessing files
- files operations and their applications
- file operation in database setting
- creating, locating and saving files
- using input devices
- using data checking devices
- formatting functions of software
- layout function of software
- graphic productions and manipulation
- regard for accuracy and security of information
- functions on the internet

Skills
The ability to:

- identify computer hardware
- manipulate data input devices
- access data
- use file operations
- key-in and format reports and letters
- retrieve data
- amend data
- print data
- save data
- search and receive data from the internet
- send and receive E-Mail

(4) Resource Implications

Files saved on network, magnetic media, personal Computer

Input devices: Keyboard, mouse, other selection devices

(5) Method of Assessment

Competency shall be assessed while work is undertaken under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competencies in this unit may be determined concurrently. Assessment must be in accordance with the performance criteria.

(6) Context of Assessment

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level -	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level -	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMRD0191A: Assemble & Disassemble scaffolding to enable access to the work area

Competency Descriptor: This unit deals with the skills and knowledge required to effectively assemble & disassemble scaffolding to enable access to the work area and applies to individuals working in the metal, engineering and maintenance industry.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare for the assembly and disassembly of scaffolding	1.1 Assembly and disassembly of scaffolding is planned and prepared to ensure OH&S policies and procedures are followed.
	1.2 The work is appropriately sequenced in accordance with requirements.
	1.3 Appropriate personnel are consulted to ensure the work is co-ordinated effectively with others involved on the work site.
	1.4 Scaffold assembly and disassembly is checked against job requirements.
	1.5 Materials necessary to complete the work are obtained in accordance with established procedures and checked against job requirements.
	1.6 Tools and equipment needed to carry out the work are obtained in accordance with established procedures and checked for correct operation and safety.
	1.7 Preparatory work is checked to ensure no unnecessary damage has occurred and complies with requirements.
2. Assemble and disassemble scaffolding	2.1 OH&S policies and procedures for assembly and disassembly of scaffolding are followed.
	2.2 Scaffold is assembled and disassembled in accordance with requirements, without damage or distortion to the surrounding environment or services.
	2.3 Unplanned events or conditions are responded to in accordance with established procedures.

	2.4	Approval is obtained in accordance with established procedures from appropriate personnel before any contingencies are implemented.
	2.5	On-going checks of the quality of the work are undertaken in accordance with established procedures.
3. Inspect and notify completion of work	3.1	Final inspections are undertaken to ensure the work conforms to requirements.
	3.2	Work is completed within acceptable time.
	3.3	Work area is left clean and tidy.
	3.4	Work completion is notified in accordance with established procedures.

RANGE STATEMENT

This unit applies to the erection of scaffolding up to 4m in height, which must be constructed in accordance with:

Personal protective equipment may include:

- overalls
- jacket
- boots
- hard hat
- safety glasses
- gloves
- ear plugs/muffs
- dust masks

The range of scaffolding equipment associated with this unit includes:

- standing prefabricated tower scaffolds
- tube and fitting scaffolds to 4 metres height
- fall protection devices
- catch platforms
- bracket scaffolds

Work is to be undertaken in accordance with standard regulatory and legislative requirements for Occupational Health and Safety. Work must be supervised and undertaken in a team situation. Supervision instruction may involve:

- verbal direction/instruction
- written instruction
- provision of sketch/drawing and details
- reports of faults may be verbal or written

Tools and equipment may include:

- spanners
- shovels
- hammers
- picks
- crow bars
- ladders

In order to maintain currency in this unit on-going competency development is to occur. This would include keeping abreast of any changes in standards, regulations, procedures, technology and the like related to the scope and application of this unit.

EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective erection and dismantling of different types of restricted height scaffolding listed within the range of variables statement relevant to the work orientation.

(1) Critical Aspects of Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organizational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of process
- demonstrate safe and effective operational use of scaffolding tools and equipment
- erect scaffolding plumb and brace for stability
- interactively communicate with others to ensure safe and effective erection and dismantling operations

(2) Pre-requisite Relationship of Units

- MEMCOR00141A Apply principles of Occupational Health and Safety OH&S in work environment
- MEMCOR0191A Use hand tools

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- OH&S procedures and codes of practice
- workplace and equipment safety requirements
- materials and materials handling
- vertical and horizontal concepts
- applications of standards, regulations, specifications, procedures and other installation requirements
- characteristics, capabilities, uses and limitation of the type of scaffolding being used
- environmental and site management *requirements*
- procedures for working at heights
- basic engineering principles related to scaffolding
- permitted clearances from energised conductors and equipment and *apparatus*
- selection and use of hand and power tools related to scaffolding
- engineering practices related to scaffolding
- communication principles
- inspection techniques
- lifting and slinging techniques

Skills
The ability to:

- work safely to instructions
- use hand tools
- handle material
- select material
- communicate effectively
- assemble & disassemble scaffolding to enable access to the work area apply basic engineering principles relating to scaffolding

(4) Resource Implications

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant product and manufacturing specifications
- any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to orally, or by other methods of communication:

- answer questions put by the assessor
- identify colleagues who can be approached for the collection of competency evidence where appropriate
- present evidence of credit for any off-job training related to this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

Competency shall be assessed on the job, off the job or a combination of both in accordance with workplace procedures

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMAH0121A: Perform basic dogging work

Competency Descriptor: This unit refers to the application of slinging techniques, including the selection and inspection of lifting gear, and the direction of the crane/hoist operator in the movement of the load including when the load is out of view of the operator. It applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Material Handling

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and prepare work	1.1	OH&S requirements associated with application tasks and workplace environment are recognized and adhered to.
	1.2	Appropriate personal protective equipment is selected, correctly fitted and used.
	1.3	Quality Assurance requirements associated with company's operations is recognized and adhered to.
	1.4	Tools and equipment for handling/rigging materials/goods, non-toxic waste is selected and is consistent with job requirements.
	1.5	Tools and equipment for rigging materials/goods is checked for serviceability and any faults reported to supervisor.
	1.6	Relevant plans, drawings and text are selected and interpreted in accordance with the work plan.
	1.7	Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications.
	1.8	Work is planned in detail including sequencing & prioritising and considerations made where appropriate for the maintenance of plant security and capacity in accordance with system/site requirements.
	1.9	Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work.

2.	Perform basic dogging operations	2.1	Appropriate load shifting equipment is selected and inspected in accordance with the work plan.
		2.2	Load moving is performed in accordance with planned hazard prevention & control measures, appropriate methods, techniques manufacturer's recommendations and/or specifications.
		2.3	Communications and signal methods appropriate to the work are selected and used.
		2.4	Load is directed to required position using appropriate signals in accordance with industry standards.
3.	Complete work	3.1	Work is completed and appropriate personnel notified in accordance with site/enterprise requirements.
		3.2	Work area is cleared of waste, cleaned, restored and secured in with site/enterprise procedures.
		3.3	Plant, tools and equipment are maintained and stored in accordance with site/enterprise procedures.
		3.4	Work completion details are finalised in accordance with site/enterprise procedures.

RANGE STATEMENT

Tools and equipment includes but is not limited to:

- spanners
- hammers
- chain blocks
- pull lifts
- winches
- pinch bars
- clamps
- pulleys
- jacks
- skids
- rollers
- cradle timbers
- chocks and wedges packers
- fish plates and bolts
- feeler gauges
- turfers and turn buckles

Engineering materials include but are not limited to:

- bricks and concrete masonry
- mortar components – cement, coarse aggregate, sand
- timber
- structural steel sections/components
- concrete
- scaffolding components, pipe sections
- plywood and particle board
- metal sheeting
- steel reinforcement
- insulation
- glass
- paints and sealants
- plaster sheeting

Protection of stacked/stored materials may include:

- covering
- tying or banding
- barricades
- signs
- locked away (hazardous materials)

Dust suppression procedures may include:

- spraying with water
- covering
- use of vacuum cleaner

Appropriate signals and communication methods may include:

- verbal
- hand signals
- whistles
- hooters
- two way radios/telephones and lights (all to the relevant industry standard

Potential hazards may include:

- trees
- overhead services such as steam, gas, water, telephone and power cables
- uneven or unstable ground
- underground services buildings/vessels/structures/equipment
- hazardous materials and substances
- other personnel
- environmental influences such as lighting, noise, temperature and wind
    -

Other personnel and environmental influences such as:

- lighting
- noise
- temperature
- wind

Lifting equipment may include:

- chains
- spreader beams
- ropes
- wire ropes
- shackles and eye bolts

Resources may include:

- cranes
- hoists
- drawings/plans and personnel

Load shifting equipment may include:

- slings
- rope
- shackles
- eye bolts and spreader beams

Work completion details may include

- plant and maintenance records
- job cards
- check sheets
- updates and reporting and/or documenting equipment defects

Fixing and anchoring methods may include bolting

- wedging
- riveting and tying

EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction/engineering materials listed within the range of variables statement, relevant to the work orientation.

(1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and Industry guidelines applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of rigging processes
- demonstrate the ability to direct the movement of loads
- demonstrate the ability to working at heights
- demonstrate the ability to interpret and apply appropriate signalling techniques
- demonstrate safe and effective operational use of tools and equipment
- interactively communicate with others to ensure safe and effective operations

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
knowledge of:

- workplace and equipment safety requirements including relevant codes and regulations
- Occupational health and safety standards
- relevant standards, industry requirements and codes of practice
- various types of slings and chains and their safe working load
- slinging techniques
- lifting gear/equipment
- hazard identification and control techniques
- load calculation techniques
- steel fixing techniques
- various cranes and hoists and their limitations

- various bolts and their tightening procedures
- safety equipment
- signalling methods
- communication principles
- range of communication mediums (verbal and non-verbal)
-

Skills
The ability to:

- work safely to instructions
- use hand and portable tools
- apply occupational health and safety standards
- apply relevant standards
- apply industry requirements and codes of practice
- interpret and apply plans and procedures
- select and assemble lifting gear
- sling and direct loads
- calculate load weights
- Identify and apply hazard control measures
- use hand tools
- bolt and fix steel work
- work at heights
- Interpret and apply appropriate signalling techniques
- apply anchoring techniques
- apply basic dogging techniques
- carry out work completion details
- communicate effectively

(4) Resource Implications

The following resources should be made available:

- general engineering and construction materials relative to construction processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to construction process
- OHSA information

(5) Method of Assessment

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- training courses on material related to range of variables and or knowledge requirement
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMAH0161A: Perform intermediate rigging work

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform rigging work associated with, but not limited to, movement of plant and equipment, particular hoists, safety nets and static lines, safety screens and shutters. It applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Metal Engineering Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and prepare work	1.1	OH&S requirements associated with application tasks and workplace environment are recognized and adhered to.
	1.2	Appropriate personal protective equipment is selected, correctly fitted and used.
	1.3	Quality Assurance requirements associated with company's operations is recognized and adhered to.
	1.4	Tools and equipment for handling/rigging materials/goods, non-toxic waste is selected and is consistent with job requirements.
	1.5	Tools and equipment for rigging materials/goods is checked for serviceability and any faults reported to supervisor.
	1.6	Relevant plans, drawings and text are selected and interpreted in accordance with the work plan.
	1.7	Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications
	1.8	Work is planned in detail including sequencing & prioritising and considerations made where appropriate for the maintenance of plant security and capacity in accordance with system/site requirements
	1.9	Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work

2.	Perform intermediate rigging operations	2.1	Load weight calculated/determined and confirmed in accordance with the work plan
		2.2	Appropriate lifting or pulling devices for the movement of load are assembled or erected in accordance with the work plan
		2.3	Loads are connected to movement device using appropriate techniques and load connection equipment in accordance with the work plan
		2.4	Materials are stored, stacked/stockpiled and protected clear of traffic ways so they can be easily identified and retrieved
		2.5	Loads are lifted/moved in accordance with appropriate methods, techniques, hazard prevention and control measures, and manufacturer's recommendations/ specifications
		2.6	Communications and signal methods appropriate to the work are selected and used in accordance with relevant industry standards/requirements
		2.7	Load is directed to required position using appropriate signals in accordance with industry standards/requirements
		2.8	Load is lowered to required position and fixed/anchored in position using appropriate methods in accordance with manufacturer's specifications and work plan
		2.9	Load shifting equipment is dismantled, removed and inspected for wear in accordance with accepted codes of practice and the work plan
3.	Complete work	3.1	Work is completed and appropriate personnel notified in accordance with site/enterprise requirements
		3.2	Work area is cleared of waste, cleaned, restored and secured in with site/enterprise procedures
		3.3	Plant, tools and equipment are maintained and stored in accordance with site/enterprise procedures
		3.4	Work completion details are finalised in accordance with site/enterprise procedures

RANGE STATEMENT

Tools and equipment includes but is not limited to:

- spanners
- hammers
- chain blocks
- pull lifts
- winches
- pinch bars
- clamps
- pulleys
- jacks
- skids
- fish plates and bolts
- feeler gauges
- turfers and turn buckles
- rollers
- cradle timbers
- chocks and wedges packers

Engineering materials include but are not limited to:

- bricks and concrete masonry
- mortar components – cement, coarse aggregate, sand
- timber
- structural steel sections/components
- concrete
- scaffolding components, pipe sections
- plywood and particle board
- metal sheeting
- steel reinforcement
- insulation
- glass
- paints and sealants
- plaster sheeting

Protection of stacked/stored materials may include:

- covering
- tying or banding
- barricades
- signs
- locked away (hazardous materials)

Dust suppression procedures may include:

- spraying with water
- covering
- use of vacuum cleaner

Lifting equipment may include:

- chains
- spreader beams
- ropes
- wire ropes
- shackles and eye bolts

Resources may include:

- cranes
- hoists
- drawings/plans and personnel

Potential hazards may include:
overhead services such as:

- steam
- gas
- water
- telephone
- power cables
- uneven or unstable ground, trees
- underground services
- buildings and structures

Other personnel and environmental influences such as:

- lighting
- noise
- temperature
- wind

Fixing and anchoring methods may include bolting

- wedging
- riveting and tying

Work completion details may include

- plant and maintenance records
- job cards
- check sheets
- updates and reporting and/or documenting equipment defects

Advanced rigging work may include:

- movement of plant and equipment
- steel erection
- particular hoists
- placement of pre-cast concrete
- safety nets and static lines
- mast climbers
- perimeter safety screens and shutters
- cantilevered crane loading platforms
- slinging and directing of loads
- rigging of cranes
- conveyors
- dredgers and excavators
- tilt slabs
- demotion and dual lifts, rigging of gin poles
- shear legs
- flying foxes and cableways
- guyed derricks and structures
- suspended scaffolds and fabricated hung scaffolds

Hazards which may affect demolition may include:

- corroded members
- impact forces
- undermined foundations
- hidden voids
- unidentified services
- hazardous substances and unstable structures

EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction materials listed within the range of variables statement, relevant to the work orientation.

(1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and Industry guidelines applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of rigging processes
- demonstrate the ability to apply advanced rigging techniques
- demonstrate the ability to select and assemble lifting gear
- demonstrate the ability to apply anchoring techniques
- demonstrate the ability to sling and direct loads
- demonstrate the ability to calculate load weights
- demonstrate safe and effective operational use of tools and equipment
- demonstrate safe application in the process of cleaning up
- interactively communicate with others to ensure safe and effective operations

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant codes and regulations
- Occupational health and safety standards
- relevant standards, legislative requirements and codes of practice
- various types of slings and chains and their safe working load
- slinging techniques
- lifting gear/equipment
- hazard identification and control techniques
- load calculation techniques

Skills
The ability to:

- work safely to instructions
- use hand and portable tools
- apply occupational health and safety standards
- apply relevant standards
- legislative requirements and codes of practice
- interpret and apply plans and procedures
- select and assemble lifting gear
- sling and direct loads
- calculate load weights
- Identify and apply hazard control measures

Underpinning Knowledge and Skills (Cont'd.)

- steel fixing techniques
- various cranes and hoists and their limitations
- various bolts and their tightening procedures
- safety equipment
- signalling methods
- demolition rigging techniques
- communication principles
- range of communication mediums (verbal and non-verbal)
- use hand tools
- bolt and fix steel work
- work at heights
- Interpret and apply appropriate signalling techniques
- apply anchoring techniques
- apply advanced rigging techniques
- apply demolition rigging techniques
- carry out work completion details
- communicate effectively.

(4) Resource Implications

The following resources should be made available:

- general engineering and construction materials relative to construction processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to construction process
- OHSA information

(5) Method of Assessment

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- training courses on material related to range of variables and or knowledge requirement .
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMAH0052A: Erect/dismantle complex scaffolding and equipment

Competency Descriptor: This unit refers to the application of scaffolding work including, but not limited to, tube and coupler scaffolds, cantilevered and spurred scaffolds, barrow ramps and sloping platforms, mast climbers.

Competency Field: Metal, Engineering and Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and prepare for the work	1.1	Work requirements are identified from request/work orders or equivalent and clarified/confirmed with appropriate parties or by site inspection
	1.2	Occupational health a safety standards, statutory requirements, relevant industry standards, codes of practice, manufacturers' specifications, environmental requirements and enterprise procedures are identified, applied and monitored throughout the work procedure
	1.3	Resources required to satisfy the work plan are identified, obtained and inspected for compliance with the job specifications
	1.4	Relevant plans, drawings and text are selected and interpreted in accordance with the work plan
	1.5	Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications
	1.6	Work is planned in detail including sequencing and prioritising and considerations made, where appropriate, for the maintenance of plant security and capacity in accordance with system/site requirements
	1.7	Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work
	1.8	Potential hazards are identified and prevention and/or control measures are selected in accordance with the work plan and site procedures
	1.9	Work area is prepared in accordance with work requirements and site procedures
	1.10	Where appropriate the teams and individuals role and responsibilities within the team are identified and, where required, assist in the provision of on-the-job training

2.	Erect scaffold/equipment	2.1	All work undertaken safely and to prescribed procedures.
		2.2	Erection site prepared to meet job requirements.
		2.3	Necessary signage and barriers placed in appropriate position.
		2.4	Scaffolding/equipment is erected to plan and in accordance with acceptable safe work practices, Industry Standards and equipment manufacturer's requirements.
		2.5	Scaffolding/equipment checked for safety and operational requirements.
3.	Alter and/or repair scaffolding/equipment	3.1	Alterations/repairs coordinated in accordance with safety work practices, Industry Standards and equipment manufacturer's requirements.
		3.2	Alterations/repairs inspected for safety and operational requirements.
		3.3	Scope of alteration/repair confirmed and understood.
		3.4	Existing scaffold/equipment is inspected for suitability of alterations/repair requirements.
		3.5	Materials, equipment and tools required for alteration determined.
		3.6	Work completion recorded/reported to appropriate authority.
4.	Dismantle scaffold/equipment	4.1	Work undertaken safely and to prescribed procedure.
		4.2	Scaffolding/equipment dismantled in accordance with site procedures and critical structural and safety requirements.
		4.3	Site cleaned and cleared of all tools, excess material and debris and left in a safe state.

RANGE STATEMENT

Work to be undertaken to industry and legislative requirements.

Equipment range includes:

- prefabricated scaffolds
- tube and fittings scaffolds
- cantilevered hoists,
- bracket scaffolds
- catch platforms

Hazard control measures may include

- erection of barriers
- signage and tags

Intermediate scaffolding work may include:

- prefabricated scaffolds
- tube and coupler scaffolds
- including tube and coupler covered ways and gantries
- cantilevered hoist with working load limit not exceeding 500kgs (material only)
- ropes
- gin wheels
- safety nets and static lines
- bracket scaffolds (tank and formwork)
- cantilevered crane loading platforms
- cantilevered and spurred scaffolds
- barrow ramps and sloping platforms
- scaffolding associated with perimeter safety screens
- shutters and mast climbers

Potential hazards may include:

- Trees and other natural vegetation
- overhead services such as power, steam, gas, water and telephone
- uneven and unstable ground
- dynamic loading such as concrete pump lines; other personnel
- environmental influences such as weather, lighting, noise and dust; and surrounding buildings, vessels and structures

Components may include:

- steel and aluminum tube
- couplers and accessories
- scaffolding planks
- ropes
- chains
- shackles
- straps and other overhead attachment gear
- scaffold hoists
- gin wheels
- swing boat
- boatswain chair
- cradles
- portable ladders and chairs

EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective erection and dismantling of different types of restricted height scaffolding listed within the range of variables statement relevant to the work orientation.

(1) Critical Aspects of Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organizational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of process
- demonstrate safe and effective operational use of scaffolding tools and equipment
- erect scaffolding plumb and brace for stability
- interactively communicate with others to ensure safe and effective erection and dismantling operations

(2) Pre-requisite Relationship of Units

- MEMCOR00141A Apply principles of Occupational Health and Safety OH&S in work environment
- MEMCOR0191A Use hand tools

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- OH&S procedures and codes of practice
- workplace and equipment safety requirements
- materials and materials handling
- vertical and horizontal concepts
- applications of standards, regulations, specifications, procedures and other installation requirements
- characteristics, capabilities, uses and limitation of the type of scaffolding being used
- environmental and site management requirements
- procedures for working at heights
- basic engineering principles related to scaffolding
- permitted clearances from energised conductors and equipment and *apparatus*
- selection and use of hand and power tools related to scaffolding
- engineering practices related to scaffolding
- types of scaffolding systems
- accessories and components
- communication principles
- inspection techniques
- lifting and slinging techniques

Skills
The ability to:

- work safely to instructions
- use hand tools
- handle material
- select material
- communicate effectively
- assemble & disassemble complex scaffolding to enable access to the work area
- apply basic engineering principles relating to scaffolding

(4) Resource Implications

The following resources should be made available:

- All tools, equipment, materials and documentation required.
- Any relevant workplace procedures.
- Any relevant product and manufacturing specifications.
- Any relevant codes, standards, manuals and reference materials

(5) Method of Assessment

The candidate will be required to

- answer questions put by the assessor.
- identify colleagues who can be approached for the collection of competency evidence where appropriate.
- present evidence of credit for any off-job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- training courses on material related to range of variables and or knowledge requirement .
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

Competency shall be assessed on the job, off the job or a combination of both in accordance with workplace procedures

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMAH0122A: Rig and position fabrications – (steel sections)

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform rigging work of steel sections associated with, but not limited to, movement of plant and equipment, particular hoists, safety nets and static lines, safety screens and shutters. It applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Metal Engineering Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and prepare work	1.1	OH&S requirements associated with application tasks and workplace environment are recognized and adhered to.
	1.2	Appropriate personal protective equipment is selected, correctly fitted and used.
	1.3	Quality Assurance requirements associated with company's operations is recognized and adhered to.
	1.4	Tools and equipment for handling/rigging materials/goods, non-toxic waste is selected and is consistent with job requirements.
	1.5	Tools and equipment for rigging materials/goods is checked for serviceability and any faults reported to supervisor.
	1.6	Relevant plans, drawings and text are selected and interpreted in accordance with the work plan.
	1.7	Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications
	1.8	Work is planned in detail including sequencing & prioritising and considerations made where appropriate for the maintenance of plant security and capacity in accordance with system/site requirements
	1.9	Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work

2.	Perform rigging operations of steel sections	2.1	Load weight calculated/determined and confirmed in accordance with the work plan
		2.2	Appropriate lifting or pulling devices for the movement of load are assembled or erected in accordance with the work plan
		2.3	Loads are connected to movement device using appropriate techniques and load connection equipment in accordance with the work plan
		2.4	Materials are stored, stacked/stockpiled and protected clear of traffic ways so they can be easily identified and retrieved
		2.5	Loads are lifted/moved in accordance with appropriate methods, techniques, hazard prevention and control measures, and manufacturer's recommendations/ specifications
		2.6	Communications and signal methods appropriate to the work are selected and used in accordance with relevant industry standards/requirements
		2.7	Load is directed to required position using appropriate signals in accordance with industry standards/requirements
		2.8	Load is lowered to required position and fixed/anchored in position using appropriate methods in accordance with manufacturer's specifications and work plan
		2.9	Load shifting equipment is dismantled, removed and inspected for wear in accordance with accepted codes of practice and the work plan
3.	Complete work	3.1	Work is completed and appropriate personnel notified in accordance with site/enterprise requirements
		3.2	Work area is cleared of waste, cleaned, restored and secured in with site/enterprise procedures
		3.3	Plant, tools and equipment are maintained and stored in accordance with site/enterprise procedures
		3.4	Work completion details are finalised in accordance with site/enterprise procedures

RANGE STATEMENT

Tools and equipment includes but is not limited to:

- spanners
- hammers
- chain blocks
- pull lifts
- winches
- pinch bars
- clamps
- pulleys
- jacks
- skids
- rollers
- cradle timbers
- chocks and wedges packers
- fish plates and bolts
- feeler gauges
- turfers and turn buckles

Engineering materials include but are not limited to:

- structural steel sections/components
- steel tanks
- structural support for steel tanks
- equipment
- production infrastructure
- scaffolding components, pipe sections
- plywood and particle board
- metal sheeting
- steel reinforcement
- insulation
- glass
- paints and sealants
- plaster sheeting

Protection of stacked/stored materials may include:

- covering
- tying or banding
- barricades
- signs
- locked away (hazardous materials)

Dust suppression procedures may include:

- spraying with water
- covering
- use of vacuum cleaner

Lifting equipment may include:

- chains
- spreader beams
- ropes
- wire ropes
- shackles and eye bolts
- come-alongs & chain hoist
- gin pole erections
- cable climbing hoist

Resources may include:

- blocks, sheaves,
- overhaul spreader bars
- cranes
- hoists
- drawings/plans and personnel
- turnbuckles, load binders & chain
- r-pole
- miscellaneous rigging devices

Potential hazards may include:
overhead services such as:

- steam
- gas
- water
- telephone
- power cables
- uneven or unstable ground, trees
- underground services
- buildings and structures

Other personnel and environmental influences such as:

- lighting
- noise
- temperature
- wind

Hazards which may affect demolition may include:

- corroded members
- impact forces
- undermined foundations
- hidden voids
- unidentified services
- hazardous substances and unstable structures

Fixing and anchoring methods may include bolting

- wedging
- riveting and tying

Work completion details may include

- plant and maintenance records
- job cards
- check sheets
- updates and reporting and/or documenting equipment defects

EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction materials listed within the range of variables statement, relevant to the work orientation.

(1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and Industry guidelines applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of rigging processes
- demonstrate the ability to apply advanced rigging techniques
- demonstrate the ability to select and assemble lifting gear

Critical Aspects and Evidence (Cont'd.)

- demonstrate the ability to apply anchoring techniques
- demonstrate the ability to sling and direct loads
- demonstrate the ability to calculate load weights
- demonstrate safe and effective operational use of tools and equipment
- demonstrate safe application in the process of cleaning up
- interactively communicate with others to ensure safe and effective operations

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant codes and regulations
- Occupational health and safety standards
- relevant standards, legislative requirements and codes of practice
- various types of slings and chains and their safe working load
- slinging techniques
- lifting gear/equipment
- hazard identification and control techniques
- load calculation techniques
- steel fixing techniques
- various cranes and hoists and their limitations
- various bolts and their tightening procedures
- rigging planning
- safety regulations
- safety equipment
- wire rope
- wire rope slings
- synthetic and other slings
- shackles and accessories
- signaling methods
- demolition rigging techniques
- communication principles
- range of communication mediums (verbal and non-verbal)

Skills
The ability to:

- work safely to instructions
- use hand and portable tools
- apply occupational health and safety standards
- apply relevant standards
- legislative requirements and codes of practice
- interpret and apply plans and procedures
- select and assemble lifting gear
- sling and direct loads
- calculate load weights
- Identify and apply hazard control measures
- use hand tools
- bolt and fix steel work
- work at heights
- Interpret and apply appropriate signalling techniques
- apply anchoring techniques
- apply advanced rigging techniques
- apply demolition rigging techniques
- carry out work completion details
- communicate effectively.

(4) Resource Implications

The following resources should be made available:

- general engineering and construction materials relative to construction processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to construction process
- OHSA information

(5) Method of Assessment

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- training courses on material related to range of variables and or knowledge requirement.
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

MEMMAH0132A: Rig and position fabrications – (concrete sections)

Competency Descriptor: This unit deals with the skills and knowledge required to effectively perform rigging work of concrete sections associated with, but not limited to, movement of plant and equipment, particular hoists, safety nets and static lines, safety screens and shutters. It applies to individuals working in the metal engineering and maintenance industry.

Competency Field: Metal Engineering Maintenance

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and prepare work	1.1	OH&S requirements associated with application tasks and workplace environment are recognized and adhered to.
	1.2	Appropriate personal protective equipment is selected, correctly fitted and used.
	1.3	Quality Assurance requirements associated with company's operations is recognized and adhered to.
	1.4	Tools and equipment for handling/rigging materials/goods, non-toxic waste is selected and is consistent with job requirements.
	1.5	Tools and equipment for rigging materials/goods is checked for serviceability and any faults reported to supervisor.
	1.6	Relevant plans, drawings and text are selected and interpreted in accordance with the work plan.
	1.7	Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications
	1.8	Work is planned in detail including sequencing & prioritising and considerations made where appropriate for the maintenance of plant security and capacity in accordance with system/site requirements
	1.9	Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work

2.	Perform rigging operations of steel sections	2.1	Load weight calculated/determined and confirmed in accordance with the work plan
		2.2	Appropriate lifting or pulling devices for the movement of load are assembled or erected in accordance with the work plan
		2.3	Loads are connected to movement device using appropriate techniques and load connection equipment in accordance with the work plan
		2.4	Materials are stored, stacked/stockpiled and protected clear of traffic ways so they can be easily identified and retrieved
		2.5	Loads are lifted/moved in accordance with appropriate methods, techniques, hazard prevention and control measures, and manufacturer's recommendations/ specifications
		2.6	Communications and signal methods appropriate to the work are selected and used in accordance with relevant industry standards/requirements
		2.7	Load is directed to required position using appropriate signals in accordance with industry standards/requirements
		2.8	Load is lowered to required position and fixed/anchored in position using appropriate methods in accordance with manufacturer's specifications and work plan
		2.9	Load shifting equipment is dismantled, removed and inspected for wear in accordance with accepted codes of practice and the work plan
3.	Complete work	3.1	Work is completed and appropriate personnel notified in accordance with site/enterprise requirements
		3.2	Work area is cleared of waste, cleaned, restored and secured in with site/enterprise procedures
		3.3	Plant, tools and equipment are maintained and stored in accordance with site/enterprise procedures
		3.4	Work completion details are finalised in accordance with site/enterprise procedures

RANGE STATEMENT

Tools and equipment includes but is not limited to:

- spanners
- hammers
- chain blocks
- pull lifts
- winches
- pinch bars
- clamps
- pulleys
- jacks
- skids
- rollers
- cradle timbers
- chocks and wedges packers
- fish plates and bolts
- feeler gauges
- turfers and turn buckles

Engineering materials include but are not limited to:

- structural concrete sections/components
- civil infrastructure
- structural support for civil infrastructure
- accessories for civil infrastructure
- production infrastructure
- pipe sections
- drainage sections and components
- plywood and particle board
- steel reinforcement to support civil works
- insulation to support civil works
- glass to support civil works
- paints and sealants
- plaster sheeting

Protection of stacked/stored materials may include:

- covering
- tying or banding
- barricades
- signs
- locked away (hazardous materials)

Dust suppression procedures may include:

- spraying with water
- covering
- use of vacuum cleaner

Lifting equipment may include:

- chains
- spreader beams
- ropes
- wire ropes
- shackles and eye bolts
- come-alongs & chain hoist
- gin pole erections
- cable climbing hoist

Resources may include:

- blocks, sheaves,
- overhaul spreader bars
- cranes
- hoists
- drawings/plans and personnel
- turnbuckles, load binders & chain
- r-pole
- miscellaneous rigging devices

Potential hazards may include:
overhead services such as:

- steam
- gas
- water
- telephone
- power cables
- uneven or unstable ground, trees
- underground services
- buildings and structures

Other personnel and environmental influences such as:

- lighting
- noise
- temperature
- wind

Hazards which may affect demolition may include:

- corroded members
- impact forces
- undermined foundations
- hidden voids
- unidentified services
- hazardous substances and unstable structures

Fixing and anchoring methods may include bolting

- wedging
- riveting and tying

Work completion details may include

- plant and maintenance records
- job cards
- check sheets
- updates and reporting and/or documenting equipment defects

EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction materials listed within the range of variables statement, relevant to the work orientation.

(1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and Industry guidelines applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of rigging processes
- demonstrate the ability to apply advanced rigging techniques
- demonstrate the ability to select and assemble lifting gear
- demonstrate the ability to apply anchoring techniques
- demonstrate the ability to sling and direct loads
- demonstrate the ability to calculate load weights
- demonstrate safe and effective operational use of tools and equipment
- demonstrate safe application in the process of cleaning up
- interactively communicate with others to ensure safe and effective operations

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- workplace and equipment safety requirements including relevant codes and regulations
- Occupational health and safety standards
- relevant standards, legislative requirements and codes of practice
- various types of slings and chains and their safe working load
- slinging techniques
- lifting gear/equipment
- hazard identification and control techniques
- load calculation techniques
- steel fixing techniques
- various cranes and hoists and their limitations
- various bolts and their tightening procedures
- rigging planning
- safety regulations
- safety equipment
- wire rope
- wire rope slings
- synthetic and other slings
- shackles and accessories
- signaling methods
- demolition rigging techniques
- communication principles
- range of communication mediums (verbal and non-verbal)

Skills
The ability to:

- work safely to instructions
- use hand and portable tools
- apply occupational health and safety standards
- apply relevant standards
- legislative requirements and codes of practice
- interpret and apply plans and procedures
- select and assemble lifting gear
- sling and direct loads
- calculate load weights
- Identify and apply hazard control measures
- use hand tools
- bolt and fix steel work
- work at heights
- Interpret and apply appropriate signalling techniques
- apply anchoring techniques
- apply advanced rigging techniques
- apply demolition rigging techniques
- carry out work completion details
- communicate effectively

(4) Resource Implications

The following resources should be made available:

- general engineering and construction materials relative to construction processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to construction process
- OHSA information

(5) Method of Assessment

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

Evidence of competence may be obtained through a variety of methods including:

- observation
- oral questioning
- examination of assessee's portfolio/CV
- supporting statement from section engineer, supervisor or equivalent
- examples of related activities to which applicant has contributed, or worked on
- training courses on material related to range of variables and or knowledge requirement .
- examples of authenticated assessments and/or assignments from formal education courses
- simulation

Tasks involved will be completed within reasonable timeframes relating to typical workplace activities

(6) Context of Assessment

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

BSBSBM0012A: Craft personal entrepreneurial strategy

Competency Descriptor: This unit deals with the skills and knowledge required to craft an entrepreneurial strategy that fits with the attitudes, behaviours, management competencies and experience necessary for entrepreneurs to meet the requirements and demands of a specific opportunity.

Competency Field: Small Business Operations

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Demonstrate knowledge of the nature of entrepreneurship	1.1 Concepts associated with entrepreneurship are clearly defined.
	1.2 Factors which influence entrepreneurship in and outside of Jamaica are correctly identified and explained.
	1.3 The importance of entrepreneurship to economic development and employment is explained clearly.
	1.4 The findings of research conducted on entrepreneurial ventures and successes in the Caribbean region are clearly presented in an appropriate format.
	1.5 Differences between wage employment and entrepreneurial ventures are correctly stated.
2. Identify and assess entrepreneurial characteristics	2.1 Relevant research is carried out and required entrepreneurial characteristics identified.
	2.2 Entrepreneurial characteristics identified are assessed and ranked.
	2.3 An understanding of the process and discipline that enable an individual to evaluate and shape choices and to initiate effective action is correctly demonstrated.
	2.4 Factors that will help an entrepreneur to manage the risk and uncertainties of the future, while maintaining a future orientated frame of mind, are identified.

3.	Develop self-assessment profile	3.1	Self-assessment tools/methods to identify personal entrepreneurial potential are identified and properly used.
		3.2	The ability to apply creativity, problem-solving techniques and principles to solve business related problems are demonstrated.
		3.3	Feedback from others for the purpose of becoming aware of blind spots and for reinforcing or changing existing perceptions of strengths/ weaknesses is appropriately obtained.
4.	Craft an entrepreneurial strategy	4.1	A profile of the past that includes accomplishments and preferences in terms of life and work styles, coupled with a look into the future and an identification of what one would like to do is developed.
		4.2	Commitment, determination and perseverance; orientation towards goals; taking initiative and accepting personal responsibility; recognizing management competencies and identifying areas for development are determined.
		4.3	Written guidelines to obtain feedback that is solicited, honest, straightforward, and helpful but not all positive or negative are developed to facilitate reviews.
		4.4	Framework and process for setting goals which demand time, self-discipline, commitment, dedication and practice are developed.
		4.5	Goals established are specific and concrete, measurable, relate to time, realistic and attainable.
		4.6	Priorities, including identifying conflicts and trade-offs and how these may be resolved are established.
		4.7	Potential problems, obstacles and risks in meeting goals are identified.
		4.8	Specified action steps that are to be performed in order to accomplish goals are identified.
		4.9	The method by which results will be measured is indicated.

4.10 Milestones for reviewing progress and tying these to specific dates on a calendar are established.

4.11 Sources of help to obtain resources are identified.

4.12 Evidence of the ability to review process and periodically revise goals is demonstrated.

RANGE STATEMENT

At this stage of the entrepreneurial process the entrepreneur must be able to conduct a self-assessment profile, examine the frame work for self assessment, develop a personal entrepreneurial strategy, identify data to be collected in the self-assessment process and learn about receiving feedback and setting goals.

Concepts associated to include:

- risk
- entrepreneurship
- macro-screening
- micro-screening
- competition
- wage employment

Influencing factors to include:

- market conditions
- markets – demand/supply
- global trends
- level of economic activities
- funding
- economic stability
- social stability
- resources availability

The entrepreneur must be able to:

- understand the extreme complexity in predicting or aligning him/herself to specific careers in an environment of constant change
- determine the kind of entrepreneur he or she wants to become based on attitudes, behaviours, competencies, experience and how these fit with the requirements and demands for a specific opportunity
- evaluate thoroughly his or her attraction to entrepreneurship
- effectively develop personal plan
- utilize available information that will enhance his or her ability to achieve success

The entrepreneur may encounter setbacks if the planning process is not effectively pursued.

Pitfalls may include:

- proceeding without effective planning which may result in commitment to uncertainty
- commitment to a premature path with the desirability of flexibility can lead to disaster
- personal plans fail for the same reasons as business plans including frustration if the plan appears not to be working immediately and the challenges of changing behaviour from an activity-oriented routine to one that is goal oriented
- developing plans that fail to anticipate obstacles, and those that lack progress milestones and reviews

EVIDENCE GUIDE

Competency is to be demonstrated when the entrepreneur is able to undertake a personal entrepreneurial assessment exercise to determine if he or she possesses the necessary credentials to be a successful entrepreneur. This stage of the entrepreneurial process is critical since experience has shown that the founder is one of the deciding forces if the venture is to succeed and prosper.

(1) Critical Aspects of Evidence

The entrepreneur will be assessed by his/her action in developing an orchestrated plan in order to effectively pursue the business concept.

(2) Pre-requisite Relationship of Units

- Nil

(3) Underpinning Knowledge and Skills

Knowledge
Knowledge of:

- personal entrepreneurial profile systems
- effective management systems: marketing, operations/productions, finance, administration, law
- how to measure feedback
- the method of developing a personal plan
  and a business plan
- understanding the difference between entrepreneurial culture and management culture

Skills
The ability to:

- determine barriers to entrepreneurship
- minimize exposure to risk
- exploit any available resource pool
- tailor reward systems to meet a particular situation
- effectively plan and execute activities
- use computer technology to undertake assessments

(4) Resource Implications

The following resources should be made available:

Personal computer with access to the internet and appropriate software that will enable one to conduct the necessary analysis using the internet

(5) Method of Assessment

A useful method of assessment is to determine if the venture can stand up to the test of critical evaluation.

(6) Context of Assessment

This stage of the entrepreneurial process is assessed when comparisons are made between actual outcomes and plans/projections.

CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
• Carries out established processes • Makes judgement of quality using given criteria	• Manages process • Selects the criteria for the evaluation process	• Establishes principles and procedures • Evaluates and reshapes process • Establishes criteria for evaluation

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.