Competency Standards for Caribbean Vocational Qualifications (CVQ)

CCBCG10508 CVQ Level I in Building Construction Drafting

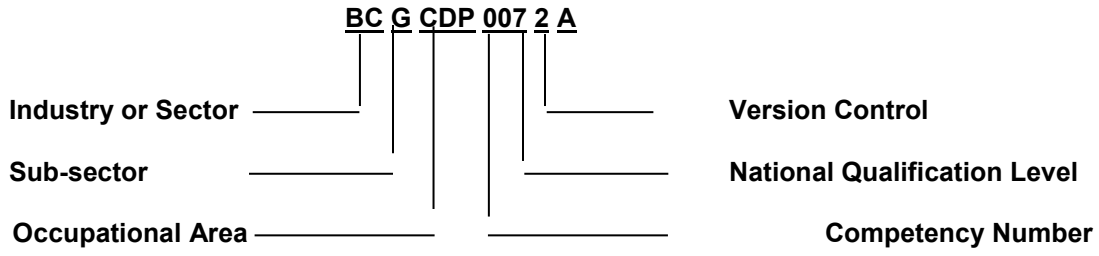
Unit Number	Unit Title	Core/Elective	Hours
BCGCOR0001A	Carry out interactive workplace communication	Core	20
BCGCOR0011A	Carry out OH&S requirements	Core	20
BCGCOR0021A	Plan and organise work	Core	20
BCGCOR0031A	Draw and interpret simple drawings	Core	20
BCGCOR0041B	Carry out measurements and calculations	Core	20
MEMCAC0011A	Perform technical computations (Basic)	Core	20
BCGBCD0022A	Prepare construction drawings manually	Core	80
BCGBCD0042A	Prepare 2D & 3D drawings using computer aided design (CAD) systems	Core	120
BCMFLS0072A	Use established information documentation systems	Core	20
CRICOM0011A	Apply Language and Communication Skills	Core	15
ITICOR0011A	Carry out data entry and retrieval procedures	Elective	40
ITICOR0471A	Access the Internet	Elective	20
BSBSBM0012A	Craft personal entrepreneurial strategy	Elective	50
ITIDAT1072A	Operate a spread sheet application	Elective	20

To obtain this qualification, ALL Core competencies plus a minimum of one (1) level one elective and one (1) level two elective must be achieved.

Nominal Training Hours (Institutional Delivery) include total hours of Core competencies and Electives selected.

Legend to Unit Code

Example: BCGCDP0072A



KEY: COR – Core; BCG – Building Construction (General); MEM –Metal Engineering Maintenance; BCD – Building Construction Drafting; SBM -Small Business Management; BSB – Business Services (Business); ITI – Information & Communication (Information Technology); DAT- Data Operation; CRI – Cross Industry; COM – Communication Skills; CAC Calculations and Computations

BCGCOR0001A: Carry out interactive workplace communication

Competency Descriptor

This unit deals with the skills and knowledge required to effectively perform interactive communication at the workplace, and applies to all individuals working in the construction industry

Competency Field: General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Receive and convey information	1.1	Verbal/written instructions received and responded to with correct actions.
		1.2	Instructions conveyed and work signage responded to, with correct action.
		1.3	Information conveyed in simple English so that messages are understood.
2	Carry out face-to-face routine communication	2.1	Routine instructions, messages and schedules are given and/ or followed.
		2.2	Workplace procedures are carried out to company or supervisor's laid down procedures.
		2.3	Relevant information is assessed and analysed from a range of sources.
		2.4	Information is selected and sequenced correctly.
3	Work with others	3.1	Suggestions and information are provided relevant to the planning/conduct of the activities.
		3.2	Communication carried out clearly, concisely and effectively so those messages are understood.
4	Participation in simple on-site meeting processes	4.1	Correct process for on-site meetings carried out to pre-determined or agreed procedures.
		4.2	Negotiations conducted to achieve a constructive outcome.

RANGE STATEMENT

This unit applies to carrying out all communication requirements, associated with working with other persons at a site location and carrying out tasks under supervision.

Verbal/written instructions include directions or instructions related to a simple job/task.

Signage may include but are not limited to:

- on-site direction signs
- common site warning signs
- facility or location signs
- traffic signs

Range of information sources may include:

- instructions: oral/memos
- signage
- work schedules/work bulletins
- charts and maps

On-site meeting process may take the form of formal or informal meetings and may include**:**

- Notification (time, place, purpose)
- Item discussion
- Negotiation outcome

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- workplace safety requirements
- types of onsite meetings and their procedures
- how work schedules, charts, work bulletins and memos are used
- how instructions are conveyed in the workplace

Skills
The ability to:

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

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 and Evidence

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

- communications to include Occupational Health and Safety regulations applicable to work place operations, and organisational policies and procedures
- demonstration of appropriate communications processes prior to and during construction activities

(2) Method of Assessment

Competence should be assessed through direct observation and questions related to underpinning knowledge.

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

Competency shall be assessed while work is undertaken under general guidance, checking at various stages of the process and at the completion of the activity, against the performance criteria and specifications.

(3) Context of Assessment

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

Assessment shall include those aspects that are consistent with the work environment of this unit.

Competency shall be assessed while work is undertaken autonomously, within a team environment.

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

Guidelines will be in line with statutory requirements, enterprise specific policies and procedures and codes of practice.

BCGCOR0011A: Carry out OH&S requirements

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to effectively perform work activities to conform to Occupational Health and Safety requirements, and applies to all individuals working in the construction industry.

Competency Field: General and Civil Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1	Plan and prepare for safe work practices	1.1	Quality assurance requirements associated with company's safety operations recognised and adhered to.
		1.2	Appropriate personal protective equipment selected, correctly fitted and/or made ready for use/ demonstration as to proper use of gear.
		1.3	Tools and equipment selected consistent with safe work practice requirements of job, checked for serviceability and any faults reported to supervisor.
		1.4	Appropriate barricades, hoardings and signage erected, where applicable, at required job location.
2	Use safe work practices to carry out work	2.1	Work carried out safely and in accordance with Statutory regulations for OH&S requirements and company policy.
		2.2	Safety hazards and workplace accidents/incidents identified in course of work and reported in accordance with company policy.
		2.3	Industry/site safety responsibilities known and applied.
		2.4	Fire fighting equipment selected and operated correctly according to type of fire.
		2.5	Current site emergency and first aid procedures known and followed.
		2.6	Signals/sirens for blasting operations recognised and adhered to.

3	Assume responsibility for safety of self and others	3.1	Appropriate protective equipment correctly selected fitted and used.
		3.2	Safe manual handling techniques used and guidelines for lifting and placing followed.
		3.3	All safety signs, symbols and alarms adhered to.
		3.4	Safety procedures for pre-use check and operation of specified power tools/plant, machinery and equipment followed.
		3.5	Recommended safe practices in handling chemical and potentially hazardous materials followed.
4	Work from ladder and work platforms	4.1	Ladder and work platforms safely erected in planned location and constructed from durable material.
		4.2	Care taken to avoid overhead power lines and other obstructions.
		4.3	Head and base of ladder or work platform support secured against accidental movement.
		4.4	Work safely performed from ladder and work platform.
		4.5	Appropriate fall arrest equipment utilised in accordance with current OH&S guidelines (safely harness).
5	Use electrical power supply safely	5.1	Position of power pole/box identified for safe placement of leads.
		5.2	Framework support positioned to keep leads at correct height and prevent hazards.
		5.3	Power board visually checked for damage, water entry and stability. Area surrounding board checked for potential hazards.
		5.4	Leads checked for tags and visual damage. Earth leakage protection checked for serviceability.
		5.5	Work safely performed using electrical power supply.

6	Adhere to emergency procedures	6.1	Emergency equipment able to be located and used as required.
		6.2	Current worksite emergency/evacuation procedures adhered to.
7	Carry out general housekeeping	7.1	Waste material disposed of safely in accordance with requirements of site and regulatory legislation.
		7.2	Unused equipment and materials safely and correctly cleaned, maintained and stored.
		7.3	Requirements of site, regulatory bodies and Occupational Health and Safety requirements observed.

RANGE STATEMENT

Quality Assurance requirements may include:

- working environment
- 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, safety boots
- ear plugs/muffs
- gloves
- safety reflective vests

Regulatory legislation may include:

- OH&S, Hazardous materials

Manual handling techniques used in accordance with current Occupational Health and Safety.

Emergency equipment and procedures include:

- fire fighting
- medical and first aid
- evacuation

Power connections include:

- isolation transformer
- power pole
- switch board area

Ladders and work platforms include:

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

Safety responsibilities apply to:

- personal protection
- safe interactive work practices (duty of care)
- protection of public and environment

Reporting of faults may be verbal and /or written.

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- workplace and equipment safety requirements
- materials
- Factory's Act
- other relevant acts, regulations and codes of practice
- company policy
- materials and chemical components

Skills
The ability to:

- work safely to instructions
- use power and hand tools
- select material to requirements
- communicate effectively
- handle material

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 be observed in the following aspects:

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

(2) 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 upon integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria.

(3) Context of Assessment

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

BCGCOR0021A: Plan and organise work

Competency Descriptor:

This unit deals with the Knowledge, skills and attitudes required to effectively plan and organise work assignments, and applies to all individuals working in the construction industry.

Construction Field: General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1	Identify work requirements	1.1	Work instructions and operational details are obtained, confirmed and applied.
		1.2	Safety requirements are followed in accordance with safety plans and policies.
		1.3	Signage/barricade requirements are identified and implemented.
2	Plan process to complete work	2.1	Work identified and major construction processes/sequences organised to achieve effective completion of work.
3	Select tools, equipment and materials	3.1	Personal protective equipment correctly identified and selected to suit job requirements.
		3.2	Tools, equipment and materials selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement.
		3.3	Materials selected conformed to job instructions.
		3.4	Key functions of major construction job.
4	Demonstrate safe and efficient sequence of work	4.1	Worksite kept clean and clear of debris.
		4.2	Tools and equipment safely located when not in immediate use.
5	Modify plan	5.1	Work plan modified to overcome unforeseen developments that occur as work progresses.
		5.2	Modifications to work plan, based on experience, are identified and incorporated into successive work activities.
6	Report outcomes	6.1	Verbal/written report provided on completed activities.

7.	Clean up	7.1 Unused materials safely stacked for removal.
		7.2 Debris and waste material removed from job location.
		7.3 Worksite left clean, safe and secure on completion.
		7.4 Tools and equipment cleaned, maintained and stored.

RANGE STATEMENT

Work organisation sequence may range from receiving instructions, to carrying out task, to cleaning up task.

Work plan may be either written or verbal and may include the following:

- preparation of work area
- selections of tools and equipment
- handling of materials, tools and equipment
- housekeeping requirements

Types of construction work may include:

- Carpentry
- Masonry
- Off-site construction
- Tiling
- Painting

Modification of plan may include:

- seeking/obtaining additional tools/ equipment
- use of other types of materials
- shifting of work area

Key functions of major construction job may include:

- Preparation for storage and hoarding
- Transportation of materials and equipment

Personal protective equipment may include:

- Gloves
- Nose guards
- Safety boots
- Goggles
- coverall

Work schedule may be carried out in a singular application or in a team situation.

Work schedule and performance may have to adhere to Quality Assurance policy and procedures.

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- workplace and equipment safety requirements
- portable power tools
- hand tools and equipment
- materials appropriate to the task
- materials handling
- Quality Assurance

Skills
The ability to:

- work safely to instructions
- use power tools and hand tools
- handle material
- select material
- apply Quality Assurance

EVIDENCE GUIDE

Competency is to be demonstrated by safe and effective preparation using any of the range of work sequences listed within the range of variable statement relative to the work environment.

(1) Critical Aspects and Evidence

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

- indicate compliance with Occupational Health and Safety regulations applicable to workplace operations including relevant regulations and legislation
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during the application of construction process
- communicate to enable efficient individual/organisational planning of work

(2) 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.

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

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria.

(3) Context of Assessment

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

BCGCOR0031A: Draw and interpret simple drawings

Competency Descriptor: This unit deals with the skills and knowledge required to effectively draw and interpret simple layout drawings and sketches, and applies to individuals working in the construction industry.

Competency Field: General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Prepare for drawing	1.1	Drawing instruments and supplies are correctly identified and selected.
		1.2	Alphabet of lines is identified and applied with all lines distinct, easily read and of the appropriate line weight and type.
		1.3	Measurements are performed using appropriate scales.
		1.4	Lettering is constructed distinctly and is easily read.
2.	Draw geometric constructions	2.1	The completed drawing illustrates a series of geometric shapes and activities.
		2.2	The finished drawing is neat and clear of smudges.
3.	Construct multi-view (orthographic 2-D) drawing	3.1	The drawing illustrates three views of specified object with correct line representation.
		3.2	The finished multi-view drawing is constructed correctly.
4.	Develop a pictorial (3D) drawing	4.1	The drawing has a correct view orientation (isometric).
		4.2	The complete pictorial (3D) drawing is correctly developed with hidden features.
5.	Construct and dimension drawings	5.1	All major features on the drawing are appropriately dimensioned to correct specification.
		5.2	All necessary details and information are shown.
6.	Apply notes and leaders	6.1	The finished drawing is neatly and appropriately labelled.
		6.2	Completed drawing illustrates correct application of notes and leaders.

7.	Prepare freehand sketch	7.1	Sketch correctly drawn with appropriate views where applicable.
		7.2	Necessary dimensions are shown and instructions and/or information conveyed by appropriate use of notes.
8.	Interpret details from sketches and drawings	8.1	Components, assemblies or objects correctly identified.
		8.2	Commonly used symbols and abbreviations are recognised.
		8.3	Dimensions and instructions are identified and followed as required.
		8.4	Material requirements are correctly identified as required.

RANGE STATEMENTS

This unit applies to the preparation and interpretation of simple working drawings and sketches of building components or structures

Alphabet of line:

- object line
- hidden line
- centre line
- section line
- dimension
- extension line
- cutting line
- short break line
- phantom line

Drawing instruments and supplies:

- drafting kit
- workstation
- drafting paper
- drawings/modules/photographs

Types of scale:

- architectural
- metric
- engineering
- civil

Measurement systems:

- metres/centimetres
- metric(SI) system

Geometric construction to include:

- circles
- regular polygons with four, six and eight sides
- pentagon inscribed within measured circle
- ellipse
- triangles with specified angles
- arcs thru three points; tangent to two circles

Multi-view (orthographic 2-D) drawings:

- full scale (1:1) orthographic 3-view drawing using third angle projection with top, front and right side view – show all hidden features and centrelines

Pictorial (3-D) drawing to include:

- isometric corner with left and right side lines each 30 degrees up from horizontal and third line at a vertical, with all three lines joining in a common intersection
- full scale (1:1) basic isometric drawing

Dimension drawings:

- dimensioning styles and methods: co-ordinate, linear/datum
- dimensioning 2-D drawing
- dimensioning complex shapes: spheres, cylinders, tapers, pyramids

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- types and use of drawing instruments and supplies
- identification of alphabet of lines, line type variation, order of usage and application on drawings
- types of scale and proportion and how they are used for measurement
- symbols, dimensions and terminology
- types of drawings and their applications

Skills
The ability to:

- make simple freehand sketches
- prepare technical drawings with drawing instruments
- read and interpret sketches and working drawings
- measure accurately
- communicate effectively

EVIDENCE GUIDE

Competency is to be demonstrated by developing and effectively reading and interpreting simple drawings and sketches to locate or identify specified features or specifications in accordance with the performance criteria and the range listed within the range statement.

(1) Critical Aspects and Evidence

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

- identify and understand various types of drawings
- identify alphabet of lines, scales, lettering, dimensions, symbols, abbreviations and key features
- identify title panel and reference date of drawings

(2) Method of Assessment

Competency may be assessed in a training institution, under direct supervision with regular checks by the instructor.

Competency in this unit would be determined by an individual working alone or based upon integrated project work.

Assessment would be continuous by checking at the various stages of the job application in accordance with the performance criteria.

The candidate will have access to drawing instrument, equipment, materials and documentation required.

(3) Context of Assessment

Competency should be assessed in a classroom environment in accordance with work practices and safety procedures.

BCGCOR0041B: Carry out measurements and calculations

Competency Descriptor: This unit deals with the knowledge, skills and attitudes required to effectively carry out measurements and calculation of work to required tolerance, and applies to all individuals working in the construction industry.

Competency Field: General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan and prepare	1.1	Work instructions are confirmed and applied.
		1.2	Safety requirements are obtained from the site safety plan, other regulatory specifications or legal obligations and applied.
		1.3	Measuring and calculating equipment selected to carry out tasks are consistent with the requirements of the job.
2.	Obtain measurements	2.1	Method of obtaining the measurement is selected and applied.
		2.2	Accurate measurements obtained to job instruction using rule, tape and other measuring devices.
		2.3	Measurements are confirmed and recorded.
3.	Perform simple calculations	3.1	Simple calculations involving length, perimeter, mass and volume using four basic operations (+,-, x, ÷), carried out.
		3.2	Material quantities for the project are correctly calculated using the appropriate factors.
		3.3	Results are confirmed and recorded.
4.	Estimate approximate quantities	4.1	Measurements or quantities estimated (approximately) on site or from job instruction.
		4.2	Information obtained correctly from job instruction.
		4.3	Measurements correctly identified/recorded without error.
		4.4	Quantities of materials suitable for work undertaken are calculated and recorded to job instructions.
		4.5	Costs for a simple project estimated to within + or – 10%.

RANGE STATEMENT

This unit applies to simple projects applicable to:

- timber frames
- structural steelwork
- concrete
- brick/block work
- joinery
- tiling
- sheeting/panelling
- plastering
- final finishes
- fences
- formwork
- excavation work

Materials include all materials utilised in construction of commercial, industrial/domestic and civil construction projects, including hardware items.

Calculations to include:

- area
- perimeter
- volume
- mass
- scales
- ratios (ingredients/elements and triangulation)

Job instruction may involve:

- verbal direction/instruction
- written instruction
- provision of job drawing and details

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- drawings and specifications
- materials relevant to the construction process
- basic operations in simple geometry, measurement and calculations
- costing relative to the construction process
- units of measurement and conversion factors

Skills
The ability to:

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

EVIDENCE GUIDE

Competency is to be demonstrated by the effective calculation of measurements and calculations of materials in accordance with the range listed in 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:

- communicate effectively to enable accurate calculations and measurements
- demonstrate effective use of measuring devices
- accurate measurements taken and recorded
- perform simple calculations to specifications
- estimate quantities and costs to requirements

(2) 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 upon integrated project work.

Assessment may be 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.

(3) Context of Assessment

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

MEMCAC0011A: Perform technical computations (Basic)

Competency Descriptor: This unit deals with the skills, knowledge and attributes required to explore mathematical principles and techniques which are applicable to engineering and maintenance activities. The candidate is required to use numerical techniques to solve problems in related trade situations.

Competency Field: Calculations and Computations

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Use the rules of addition, subtraction, multiplication and division of decimal fractions to solve related trade problems	1.1 Number system is used to solve problems in related trade situations.
	1.2 Simple calculations are performed using four basic rules, addition, subtraction, multiplication and division.
	1.3 Concepts are understood and simple calculations are performed involving rounding off.
	1.4 Concepts are understood and simple calculations are performed involving changing to common fractions and vice versa.
	1.5 Concepts are understood and simple calculations are performed involving use of decimal equivalent table.
	1.6 Numerical answers are provided with appropriate units to a degree of accuracy commensurate with related application.
2. Solve problems using whole numbers, fractions and decimal numbers	2.1 Simple calculations are performed using four basic rules, addition, subtraction, multiplication and division.
	2.1 Concepts are understood and simple calculations are performed involving whole numbers.
	2.3 Concepts are understood and simple calculations are performed involving fractions.

		2.4	Concepts are understood and simple calculations are performed involving decimal numbers.
		2.5	Numerical answers are provided with appropriate units to a degree of accuracy commensurate with related application.
3.	Use percentage and ratio to solve related skill problems	3.1	Concepts are understood and simple calculations using percentages are performed involving decimal numbers.
		3.2	Concepts are understood and simple calculations using percentages are performed involving fractions.
		3.3	Concepts are understood and simple calculations using percentages are performed involving whole numbers.
		3.4	Concepts are understood and simple calculations using ratio are performed involving decimal numbers.
		3.5	Concepts are understood and simple calculations using ratio are performed involving fractions.
		3.6	Concepts are understood and simple calculations using ratio are performed involving whole numbers.
		3.7	Numerical answers are provided with appropriate units to a degree of accuracy commensurate with related application.
4.	Change percent to decimal or fractions and vice versa and subsequently perform these operations on related trade problems.	4.1	Concepts of conversion are understood and simple calculations using percent to decimal or fractions and vice versa are performed involving cost.
		4.2	Concepts of conversion are understood and simple calculations using percent to decimal or fractions and vice versa are performed involving wages.
		4.3	Concepts of conversion are understood and simple calculations using percent to decimal or fractions and vice versa are performed involving related applications.
		4.4	Numerical answers are provided with appropriate units to a degree of accuracy commensurate with related application.

5.	Calculate perimeters and areas of applications in related trade	5.1	Concepts of calculating perimeters and areas are understood and simple calculations using squares and rectangles are performed involving related applications.
		5.2	Concepts of calculating perimeters and areas are understood and simple calculations using circles (circumferences and areas) are performed involving related applications.
		5.3	Concepts of calculating perimeters and areas are understood and simple calculations using trapezoids are performed involving related applications.
		5.4	Concepts of calculating perimeters and areas are understood and simple calculations using cones are performed involving related applications.
		5.5	Concepts of calculating perimeters and areas are understood and simple calculations using cylinders are performed involving related applications.
		5.6	Concepts of calculating perimeters and areas are understood and simple calculations using triangles (hypotenuse) are performed involving related applications.
		5.7	Numerical answers are provided with appropriate units to a degree of accuracy commensurate with related application.
6.	Calculate volume of applications in related trade	6.1	Concepts of calculating volume are understood and simple calculations using squares and rectangles cross section are performed involving related applications.
		6.2	Concepts of calculating volumes are understood and simple calculations using conical cross section are performed involving related applications.
		6.3	Concepts of calculating volumes are understood and simple calculations using cylindrical cross section are performed involving related applications.
		6.4	Concepts of calculating volumes are understood and simple calculations using triangular cross section are performed involving related applications.
		6.5	Numerical answers are provided with appropriate units to a degree of accuracy commensurate with related application.

7. Apply angular measurement between 0 and 360 degrees with the use of a protractor	7.1 Protractor is used to solve problems in related trade situations.
	7.2 Concepts of calculating angles are understood and simple calculations using four basic rules, addition, subtraction, multiplication and division are performed involving related applications.
	7.3 Numerical answers are provided with appropriate units to a degree of accuracy commensurate with related application.

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The following variables may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts

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

- measurement
- fundamentals of general mathematics
- 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

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

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

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- drawings and specifications
- basic operations in simple geometry,
- measurement and calculations
- costing relative to the trade application
- 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
- apply the fundamentals of general mathematics
- measure and calculate manually
- record measurements
- operate electronic calculating devices
- perform basic technical computation
- communicate effectively

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) 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
- written 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

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.

(3) 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.

BCGBCD0022A: Prepare construction drawings manually

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare construction drawings using manual drawing instruments.

Competency Field: Building & Construction General – Building Drawings

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1	Prepare for construction drawings	1.1	Purposes of construction drawings clearly understood.
		1.2	The need for drawings in construction processes clearly understood.
		1.3	The standards for construction drawing practice clearly understood.
		1.4	Drawing instruments correctly identified, selected according to specified uses and checked for serviceability.
		1.5	Drawing materials and consumables correctly identified and selected.
		1.6	Drawing equipment and resource safely assembled at workstation.
		1.7	Drawing paper correctly and securely fastened to drawing table.
2	Prepare construction drawings	2.1	Information/instruction relevant to the type of construction drawings to be prepared correctly interpreted/understood.
		2.2	Alphabet of lines applied with all lines distinct, easily read and of the appropriate line weight and type.
		2.3	Correct measurements are performed using appropriate scales.
		2.4	The prepared construction drawing conforms is drawn to the view, shape and size specified and to appropriate recognised standards.
3.	Produce detail drawings of construction elements and components	3.1	Detailed drawing of a plan of construction element correctly drawn.
		3.2	Detailed drawing of a section of construction element correctly drawn.

		3.3	Assembly drawing for the connection of two construction elements correctly drawn.
		3.4	Assembly drawing for the installation of a component is correctly prepared.
4.	Apply notes and leaders	4.1	Lettering is constructed distinctly and is easily read.
		4.2	Completed drawings illustrate correct application of notes and leaders.
		4.3	Completed drawings are appropriately labelled, neat and clear of smudges.
		4.4	Checklist produced used for checking completion of drawings
		4.5	Reproduction and record keeping consistent with quality assurance and preservation procedures.

RANGE STATEMENT

This unit focuses on drawing practice using manual methods, from basic drawing to construction drawing.

Purpose of drawings to include:

- locate position
- show relationships
- define shapes
- communicate design

Need for preparation of drawings to include:

- assist in design integration
- measurement of various building components
- project costing information
- information on tendering on project
- valuation
- aid in condition survey regarding planning the implementation of physical activities
- construction details of project

Drawing equipment to include:

- drawing boards
- tee squares
- squares (set, adjustable)
- drawing pens
- pencils
- scale rules
- compass (pivot, bar)
- templates (circles, curves)
- dividers
- erasers and eraser shields
- drawing templates

Resources to include:

- drawing paper
- tracing paper
- cellophane masking tapes and/or
- thumb tacks

Standards relating to:

- presentation layout
- line
- dimensions
- lettering
- scales

projections (orthographic, axonometric, oblique, isometric), perspective (bird's eye, one point, worm's eye

- graphical symbols, materials identification, abbreviations

Location drawings for a low rise dwelling to include:

- location plan
- site (general layout) plan

Orthographic projection:

- first angle
- third angle

Construction elements to include:

- substructure/foundation
- skylight/dormers, etc
- wall (hollow, solid), partition (demountable)
- floor (in-situ concrete, precast concrete suspended, timber suspended)
- roof (pitched, flat)
- super structure (columns, stairs, elevator shafts, plumbing. Electric, etc.

Construction accessories to include:

- door-set (external, internal)
- window (casement, sliding sash, fixed light)
- kitchen/bathroom fixtures and fittings

Construction drawings include:

- plane geometrical figures
- square
- rectangle
- combinations of squares and rectangles
- circle
- ellipse
- arch (semi-circular, elliptical)
- triangular (equilateral, isosceles

Construction drawing to include:

- plans (floor, roof)
- elevations (Two sides and back and front)
- building sections (At least two)
- reflected (ceiling, etc)

Check list for the completion of construction drawing to include:

- accuracy
- correct scales
- removal of drafting lines
- cleanliness
- annotation
- north point
- title panel
- layout
- presentation
- labelling of rooms
- numbering of sheets

Installation of components to include:

- door-set in structural opening
- window frame in structural opening
- glazing (fixed/operable) storefronts
- handrails, cooler boxes, freezers
- water heaters
- washers and dryers

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- types and use of drawing instruments and supplies
- identification of alphabet of lines, line type variation, order of usage and application on drawings
- types of scale and how they are used for measurement
- symbols, dimensions and terminology
- types of construction drawings
- purpose of construction drawings
- standards and conventions for producing construction drawing
- plane geometric figures
- location drawings
- construction drawings development
- orthographic projection development
- check list for drawing
- construction elements
- construction components

Skills
The ability to:

- use manual drafting instrument
- describe the purpose, need and standards for prepare construction drawings
- identify geometric figures
- make freehand sketches
- draw geometric figures
- draw location drawings
- draw construction drawing
- draw orthographic projection
- prepare drafting check list
- use drafting check list
- read and interpret sketches and working drawings
- communicate effectively

EVIDENCE GUIDE

Competency is to be demonstrated by developing construction drawings, using manual drawing equipment in accordance with the performance criteria and the range listed within the range statement.

(1) Critical Aspects and Evidence

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

- safe practice in using techniques appropriate to manual drawing procedures
- identify and apply alphabet of lines
- using drafting scales correctly (metric/imperial etc)
- construction of proper size lettering
- geometric construction
- orthographic 2D multi-view drawing
- referencing from available sources
- dimensioning
- applying notes and leaders
- make drawing revisions regarding changes subsequent to date of issue
- drawing plans, elevations, sections
- drawing construction elements
- preparing schedules, (windows, doors, finishes)
- checking drawings for correctness, completeness

(2) Method of Assessment

Competency may be assessed in a drafting office or classroom environment, in accordance with work practices and safety procedures and under supervision of supervisor or instructor.

Competency in this unit would be determined by an individual working alone or based upon integrated teamwork project.

Assessment would be continuous by checking at the various stages of the job application in accordance with the performance criteria.

(3) 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 environment in which the assessment is conducted should not disadvantage the candidate.

The candidate will have access to drawing instrument, equipment, materials and documentation required.

BCGBCD0042A: Prepare 2D & 3D drawings using computer aided design (CAD) systems

Competency Descriptor:

This unit deals with the skills and knowledge required to produce two-dimensional and three-dimensional drawings using the computer-aided equipment

Competency Field: Building & Construction – Building Drawings

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1	Prepare CAD environment	1.1	Purpose of drawing, type and other relevant instructions and/or information clearly understood.
		1.2	Methods and media selected for developing and producing drawing are suitable for the drawing required and resources.
		1.3	Computer system variables are customised to suit standard operating procedure.
		1.4	Menus are customised to suit standard operating procedure.
		1.5	Drawing parameters are customised to standard operating procedure.
		1.6	Macros are developed to standard operating procedure.
		1.7	Incomplete and inconsistent input information is appropriately clarified and rectified.
2	Prepare Dimensional drawings	2.1	Drawings are created using the full capability of the available software system.
		2.2	Drawing entities are linked to database attributes to suit job requirements.
		2.3	Detailed views of Dimensional construction elements and components are created using various scales to meet job requirements.
		2.4	Drawings edited using appropriate computer commands and procedures.

2.5 Drawings and associated graphical material produced are complete, accurate and comply with design information and relevant documentation.

2.6 Deviations from standard conventions where occurred, are justified and are indicated clearly.

2.7 Checks conducted and approvals obtained regarding content and presentation of drawings.

2.8 Files are saved in various formats to standard operating procedure.

2.9 Where required, files are sent to relevant personnel in the appropriate format via the internet.

2.10 Reproduction and record keeping consistent with quality assurance procedures.

RANGE STATEMENT

This unit applies to the production of 2D and 3D drawings file management and associated customisation of installed software including the use of macros, menus and default.

Entity means any single item created on the screen and includes for example: lines, arcs, circles, text, hatch and dimensions.

Purpose of drawing to include:

- locate position
- show relationships
- define shape
- communicate design
- procurement
- contract definition
- construction/production

Types of drawings to include:

- location plans
- sketches (building – internal/external, components, landscaping
- working - construction, implementation
- schedules (doors, windows, finishes
- presentation drawing: 20/30, 1point, 2 point parametric (eg isometric) or perspective techniques, birds and standards, worms eye

Construction drawings:

- plane geometrical figures
- location drawings
- floor and roof plans, elevations, building sections details, etc
- projections – isometric, oblique, etc

Construction elements to include:

- substructure
- superstructure
- walls (hollow, solid)
- floor (in-situ concrete, precast concrete suspended, timber suspended)
- roof (pitched, flat)

Construction components to include:

- door-set (external, internal)
- window (casement, sliding sash, fixed light)
- bathroom/kitchen fixtures and fittings
- handrails, stairs, elevator, etc

Connection of two construction elements to include:

- substructure to superstructure
- floor to wall
- wall to roof

Completion checks of drawing to include:

- accuracy
- correct scales
- line density
- annotation
- north point
- title panel (block)
- layout of drafted elements/sub-components
- presentation
- completeness

Checks and approval of drawing to include:

- format
- presentation
- accuracy
- technical content
- completeness
- referencing
- cross-referencing/coordination
- status
- correlation with associated documents

Installation of components to include:

- door-set in structural opening
- window frame in structural opening
- glazing (fixed,/operable), storefronts
- handrails, mouldings, cooler boxes, freezers

Drafting equipment:

- computer equipped with AutoCAD software
- printer

Drawing conventions:

- detailing standards
- codes of practice
- local industry conventions

File formats may include:

- IGES
- DXF
- HPGL

- shape
- dimensions
- tolerances
- composition
- fixing
- annotation
- symbols
- conventions

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- ergonomics problems relating to computer work stations
- safety precaution to observed when using computer equipment for CAD applications
- the function of CAD commands that are used to produce 2D drawings
- the function of CAD commands that are
- used to produce 3D drawings
- macro and lists identification
- procedure for creating 2D drawings
- display commands used to create 2D drawings
- procedure for creating 3D drawings
- display commands used to create 3D drawings

Skills
The ability to:

- practice safety techniques for using computer work station
- set up computer workstations to produce drawings
- manipulate and manage computer files
- use computer hardware and CAD software commands to produce 2D & 3D drawings
- apply knowledge of macro and LIST programming to troubleshoot macro and LIST routines

EVIDENCE GUIDE

Competency is to be demonstrated by developing drawings and schedules in accordance with the performance criteria and the range listed within the range statement.

(1) Critical Aspects and Evidence

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

- practice safety techniques appropriate to computer usage
- demonstrate basic computer skills
- set drawing parameters
- create drawing entities
- edit drawing entities
- use drawing aids
- manage layers and line types
- operate output devices
- use symbol libraries
- use macro/LISP capabilities
- develop two dimensional drawings
- develop three dimensional drawings

(2) Method of Assessment

Competency may be assessed in a drafting office or classroom environment, in accordance with work practices and safety procedures and under supervision of supervisor or instructor.

Competency in this unit would be determined by an individual working alone or based upon integrated project work.

Assessment would be continuous by checking at the various stages of the job application in accordance with the performance criteria.

(3) 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.

The candidate will have access to drawing instrument, equipment, materials and documentation required.

BCMFLS0072A: Use established information documentation systems

Competency Descriptor:

This unit deals with the skills and knowledge required to store and retrieve information related to construction site operations using an established documentation system. It applies to individuals engaged in frontline supervision.

Competency Field: Construction Frontline Management

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Store information using an established storage system	1.1 Information to be stored, accurately identified and where required sorted.
	1.2 Where appropriate, information documented is accurate, legible, and completed to the prescribed format.
	1.3 Information is stored promptly, in correct location and sequence.
	1.4 Stored materials are undamaged, safe and secure.
	1.5 Information is classified correctly.
	1.6 Classification queries are referred to the appropriate person.
	1.7 Systems for locating information are up to date, accurate and in a prescribed form.
2. Obtain information from an established storage system	2.1 Information to be retrieved, correctly determined and source identified.
	2.2 Required information is promptly located, obtained and made available for appropriate use.
	2.3 Delays in the supply of information are notified and reasons for delay politely explained.

2.4 Information obtained is correctly recorded, up to date and in the required form.

2.5 Missing or overdue items are identified and correct procedures followed to locate them.

RANGE STATEMENT

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment.

The following variables may be present for this particular unit**:**

Types of information include:

- technical
- health and safety requirements
- personal
- for materials
- manpower
- tools
- equipment
- time
- statutory data

Storage methods:

- hard copies
- data based
- micro film

Methods of classifying information:

- alphabetical
- numerical

Storage and retrieval equipment:

- filing cabinets
- computer
- micro-fich

Forms of information are facts, figures and statistics and include:

- written job instructions
- working drawings/sketches/plans
- technical papers
- manufacturers specifications/recommendations
- photographs
- maintenance schedule
- time sheets
- requisitions
- delivery slips
- work completion
- names of contractors, sub-contractor, workers
- suppliers
- inventory
- equipment lease/rental

Documentations to include:

- site diary
- work reports
- accident reports
- applications for absence from work
- timecards

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- characteristics of effective classification systems
- indexing systems
- classifying information
- data relating to all aspects of the operations within given area of responsibility
- methods of checking and validating information received
- the use of site diary and how to document information in it
- information and queries within levels of responsibilities
- organisation's reporting procedure
- importance of accuracy in documenting and reporting information
- record keeping – manual and electronic
- labour laws
- effective storage of information
- data protection and copyright

Skills
The ability to:

- work systematically with accuracy and attention to detail
- read and comprehend/interpret nature of record content
- interpret retention and disposal schedules
- interpret and apply relevant access and security rules and conditions
- accurately record metadata
- write reports where precise meaning is required
- relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria and Range Statement.

(1) Critical Aspects of Evidence

- Compliance with occupational health and safety regulations applicable to workplace operations.
- Application of organisational management policies and procedures including quality.
- Demonstrated ability to understand the processes of capture, classification, registration and the location of records.
- Demonstrated ability to identify activities documented by records and apply classifications schemes.
- Demonstrated ability to use databased equipment.
- Record metadata accurately
- Document facts, figures and statistics related to construction site activities within scope of responsibilities.

(2) Method of Assessment

In order to achieve consistency of performance, evidence should be collected over a set period of time, which is sufficient to include dealings with an appropriate range and variety of situations.

(3) Context of Assessment

Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement.

Assessment must take account of the endorsed assessment guidelines in the Building and Construction Training Package.

Assessment of performance requirements in this unit should be undertaken in an actual workplace or simulated environment.

CRICOM0011A: Apply language and communication skills

Competency Descriptor: This unit provides skills and knowledge required to apply the rules of spoken and written English to enhance the development of language and communication skills necessary to communicate effectively in a wide range of contexts.

Competency Field: Language and Communication

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Apply grammar and usage	1.1 The different parts of speech are identified correctly.
	1.2 The different tenses are identified and used appropriately.
	1.3 Knowledge of the different types of nouns is demonstrated.
	1.4 The correct forms of verbs are identified and used appropriately.
	1.5 Different kinds of phrases are identified.
	1.6 Knowledge of the types of sentences is demonstrated.
	1.7 Sentences are constructed showing correct use of agreement between subjects and verbs.
	1.8 Sentences are constructed showing agreement between pronouns and the antecedents.
	1.9 Sentences are constructed using different subordinates clauses.
	1.10 Sentences are constructed using verbs in their active and passive voice.
	1.11 Knowledge of the correct use of other parts of speech is demonstrated.
	1.12 Sentence faults are identified and corrected.

2.	Apply the rules for mechanics, vocabulary and spelling	2.1	Knowledge of rules governing the use of capitalization, punctuation and abbreviation is demonstrated.
		2.2	Punctuation marks are used correctly in written exercises.
		2.3	Abbreviations are identified and used as related to skill area.
		2.4	Capitalization used correctly in written sentences.
		2.5	The spelling rules are identified and applied.
		2.6	Word meanings are interpreted through context clues and industry standards.
3.	Develop writing skills	3.1	Essential characteristics of a paragraph are identified.
		3.2	Paragraph from given information are developed.
		3.3	Main points in a written document are correctly identified and expanded.
		3.4	Summarization skills are developed.
		3.5	Types of written communication such as letters, memoranda and reports are identified.
		3.6	Reports, letters and memoranda are coherently written using appropriate sentence construction techniques, mechanics, vocabulary/terminology and, where required, industry jargon.
		3.7	Job-related forms are completed to the required standards.
		3.8	Written activities are completed within specified time.
		3.9	References are acknowledged as required.
4.	Develop oral and visual communication skills	4.1	The purposes of oral and visual communication are correctly stated.
		4.2	Methods of non-verbal communication are identified and used where appropriate.
		4.3	Appropriate tools and devices are used to communicate effectively in the oral mode.
		4.4	Subject matter is identified and orally or visually communicated.

	4.5	Listening skills are developed and applied to aid effective communication in the workplace.
	4.6	Effective interpersonal communication skills are applied in the work environment.
5. Use information system	5.1	The functions of a library are identified.
	5.2	Manual/electronic databases of catalogues are correctly used.
	5.3	A variety of media is used to access information.

RANGE STATEMENT

The Range Statement explains the scope and context of the unit of competency allowing for differences between workplaces. The scope of variables chosen for training and assessment requirements will depend on the particular work situation,

The following variables may be present:

Grammar and usage may include:

- parts of speech
- parts of a sentence
- types and functions of sentences (e.g. simple and compound)
- phrases and their functions
- subordinate clauses (adverbial adjectival, noun)
- rules for subject-verb agreement (focus on indefinite pronoun as subject; collective noun as subject)
- pronouns and their antecedents
- verbs: action, linking, regular, irregular
- tenses: present, past, future, present perfect, past perfect, future perfect
- adjectives and adverbs
- sentence faults: fragments and run-on

Mechanics, vocabulary and spelling may include:

- rules governing the use of capitalization, punctuation and abbreviation
- punctuation marks: end marks, commas, semi-colon and colon, quotation marks, dashes and parentheses, hyphen, apostrophes
- Abbreviations: symbols, measurements, time, number
- spelling words and interpretation of their meanings through context clues and word analysis, prefixes, suffixes, root (focus on words used in skill area)

Interpersonal communication skills include:

- goal setting
- effective communication practice
- good customer service
- oral and written presentation techniques

Other parts of speech may include:

- adjectives
- adverbs
- preposition
- conjunction

Communication skills may include:

- effective listening skills (eliciting feedback, developing objectivity, learning to empathize
- kinds of communication barriers
- clear logical reasoning
- identification and evaluation of propaganda techniques
- formal report/speech
- purposes/goal for written, visual and oral communication
- methods of non-verbal communication
- oral/written instructions
- use of telephone, fax machine, advertisement
- use of statistics and graphical presentation differentiating between facts and opinions

A report:

- is used to denote any required written communication that goes beyond a simple recording of facts (such as completion of a shift production schedule) to include level of analysis and/or research
- may be of a technical nature and it should be based on the writer having technical knowledge. Conclusions and/or recommendations, where required, are based on research or analysis of data
- includes graphs, charts, tables, etc. as required
- analysis and conclusions should be consistent with the level of skill and knowledge of the employee working at that level

Visual communication skills may include:

- body language
- gestures
- facial expressions
- sign language
- signs
- graphs, charts and so on

Writing skills may include:

- methods of paragraph development – chronological, order of importance, spatial order, comparison or contrast
- paragraphs with – topic sentences and supporting sentences, unity and coherence,
- linking expressions and connectives,
- sentence length and structure
- different types of reports and letters – styles and format
- filling out of job-related forms
- writing of resume
  preparation of notices

Information systems include:

- functions of library and documentation centre
- use of catalogues in libraries/documentation centres to locate books
- use of dictionaries and encyclopaedias
- use of technical handbooks, manuals, directories and maps
- use of newspapers and periodicals

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- the eight parts of speech
- grammar and usage
- types of sentences
- parts of sentences
- types of paragraphs
- rules of mechanics, vocabulary and spelling
- writing styles (technical or non-technical)
- communication skills
- information systems
- reports including graphs, charts, tables

Skills
The ability to:

- communicate concepts in writing
- identify main points
- expand main points
- apply language and communication skills (orally and in writing) in the workplace

EVIDENCE GUIDE

Competency is to be demonstrated by the effective use of communication skills in accordance with the range listed in 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 applicable to the individual's work.

During assessment the individual will:

- demonstrate the ability to apply language
- demonstrate the ability to apply communication skills
- demonstrate effective writing style
- demonstrate the ability to identify and expand main points
- communicate information about processes, events or tasks being undertaken to ensure a safe and efficient working environment
- use appropriate communication techniques, practices and processes
- follow accepted workplace procedures

(2) Method of Assessment

The candidate will be required to:

- answer questions put by the assessor
- communicate in the work environment (oral assessment)
- present evidence of credit for any off-job training related to this unit

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.

(3) 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.

ITIC0R0011A: 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

Data:

- textual
- numerical
- graphical

Software systems to include for:

- word processing
- spread sheet
- internet access

Files save on:

- network
- magnetic media
- personal PC

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

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

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) 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.

(3) 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.

ITICOR0471A: Access the Internet

Competency Descriptor: This unit deals with the skill and knowledge required to access the Internet and applies to all individuals operating in the information and communication industry.

Competency Field: Information Technology

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Identify and use local resources	1.1	Installed Internet software applications are correctly identified and started up using the correct procedures.
		1.2	Appropriate Internet software is used off line or online following the correct operating procedures.
		1.3	Access is gained to desired site and files are downloaded.
		1.4	Downloaded files are scanned for viruses using installed software according to established guidelines.
		1.5	Guidelines and regulation are adhered to in the retrieval of information and files.
2.	Identify and use remote resources	2.1	Files and documents using the Internet search engines are accessed using the correct procedures.
		2.2	The Internet is browsed to find related sites via links according to procedures.
		2.3	Sending, downloading, reading and responding to e-mails follow organisational and operational procedures.
		2.4	Files attached to incoming e-mails are correctly retrieved and appropriately sent as attached files.

RANGE STATEMENT

This unit applies to the activities associated with the essential operations linked to accessing the Internet and applies to all individuals in the information and communication industry.

Software may include but are not limited to:

- Microsoft Internet Explorer
- Netscape
- Lycos
- Google
- Yahoo

Policies and regulations may include issues related to but not limited to:

- encryption and privacy
- intellectual property rights
- pornography

Anti-virus software may include:

- Norton
- McAfee

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- knowledge of how to initiate and conclude an Internet connection
- knowledge of appropriate uses of different Internet protocols and data types (WWW, email, etc.)
- knowledge of privacy and security measures related to online tasks
- knowledge of information sources

Skills
The ability to:

- access the Internet and retrieve data using WWW and e-mail
- send a simple e-mail
- perform a simple search and save the text of a web page to disk
- extract and virus-scan downloaded files
- demonstrate an ability to find and use information relevant to the task from a variety of information sources

EVIDENCE GUIDE

Competency is to be demonstrated by the ability to access the Internet and obtain and send information as in accordance with the performance criteria and the range listed within the range of variable statements.

(1) Critical Aspects of Evidence

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

- identification of install internet software
- initiate use of software
- access and browse internet
- download and virus-scan files
- retrieve and send e-mails
- retrieve and send attachments

(2) 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.

(3) 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.

Simulated activities must closely reflect the workplace.

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

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

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) Method of Assessment

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

(3) Context of Assessment

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

ITIDAT1072A: Operate a spreadsheet application (advance)

Competency Descriptor: This unit deals with the skills and knowledge required to perform operations using advance features of a spreadsheet application and applies to individuals operating in the information and communication industry.

Competency Field: Information Technology

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Create spreadsheets	1.1	Basic built in functions are appropriately employed.
		1.2	Appropriate formulae are entered using relative and absolute referencing where required.
		1.3	Formulae are promptly corrected when standard error messages occur.
		1.4	Various tools are used appropriately during spreadsheet development.
		1.5	Data entries are copied or increased incrementally for logical and clear presentation of information.
2.	Customise spreadsheet environment	2.1	Page display modes, orientation and size are appropriately adjusted to meet user requirements and/or special needs.
		2.2	Toolbar is appropriately modified to meet user and document uses.
		2.3	Toolbar is appropriately modified to meet user and document uses.
3.	Format spreadsheet	3.1	Selected format is correctly copied from another cell or group of cells in the spreadsheet or from another active spreadsheet.
		3.2	Appropriate formatting tools are used as required within the spreadsheet and/or individual cells.
		3.3	The ability to identify, set, edit and test basic and conditional cell validations is demonstrated.

		3.4	Create message boxes and error messages.
		3.5	Insertion of headers and footers incorporating all necessary information and formatting styles followed the correct procedures.
		3.6	Document is saved in another format and in a format that is appropriate for posting to a web site.
4.	Incorporate objects and charts in spreadsheets	4.1	Objects are imported to and manipulated within a spreadsheet using the correct procedures.
		4.2	Spreadsheet data is clearly displayed in different charts.
		4.3	Charts are appropriately modified for formatting purposes.
5.	Sort and Lookup Records	5.1	Basic and advanced sorting options are used.
		5.2	Lookup functions to return values from search table are used.
		5.3	Scenarios are created and worked with.
6.	Create nested functions and macros	6.1	Nested functions are created, edited and copied.
		6.2	Macros are created, edited and ran.

RANGE STATEMENT

This unit applies to the activities associated with the essential operations linked to the operations of advance features of spreadsheet applications and applies to individuals in the information and communication industry.

Hardware may include but not limited to:

- personal computer
- networked system
- printer

Software may include but not limited to:

- Microsoft Excel
- Lotus 123

Formatting may include:

- margins
- indentations
- page layout
- orientation

Data may include:

- numeral
- text
- images
- objects

Mathematical formulae may include:

- average
- interest
- multiply
- divide

UNDERPINNING KNOWLEDGE AND SKILLS

Knowledge
Knowledge of:

- basic technical terminology in relation to reading help files and prompts
- log-in procedures relating to accessing a PC
- types of software
- basic mathematics
- formatting functions of software
- nested functions and macros

Skills
The ability to:

- create spread sheets
- format and modify worksheets
- apply mathematical formulae
- customise settings

EVIDENCE GUIDE

Competency is to be demonstrated by the ability to complete basic operations associated with the advanced features of a spreadsheet application in accordance with the performance criteria and the range listed within the range of variable statements.

(1) Critical Aspects of Evidence

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

- creating spread sheets
- insertion of correct data
- use appropriate formulae
- formatting and modifications done to specifications
- create nested functions and macros
- correct interpretation of job specifications

(2) 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.

(3) 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.

Simulated activities must closely reflect the workplace.