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**MINISTRY OF EDUCATION**

**NATIONAL OCCUPATIONAL STANDARDS**

**FOR**

**CARPENTER AND JOINER**

**KNQF LEVEL 5**

**PROGRAMME ISCED CODE**: **0732 454 A**

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**FOREWORD**

The provision of quality education and training is fundamental to the Government’s overall strategy for social economic development. Quality education and training will contribute to achievement Kenya’s development blue print and sustainable development goals.

Reforms in the education sector are necessary for the achievement of Kenya Vision 2030 and meeting the provisions of the Constitution of Kenya 2010. The education sector had to be aligned to the Constitution and this resulted to the formulation of the Policy Framework for Reforming Education and Training (Sessional Paper No. 4 of 2016). A key feature of this policy is the radical change in the design and delivery of the TVET training. The policy document requires that training in TVET shall be competency based, curriculum development shall be industry led, certification shall be based on demonstration of competence and mode of delivery shall allow for multiple entry and exit in TVET programs.

These reforms demand that Industry takes a leading role in curriculum development to ensure the curriculum addresses its competence needs. It is against this background that this Occupational Standard has been developed for the purpose of informing development of a competency-based Carpentry and Joinery Level 5 Curriculum. This Occupational Standard will also form the basis for assessment of an individual for competency certification.

It is my conviction that this Occupational Standard will play a great role towards development of a competent human resource for the Construction Sector’s growth and sustainable development.

**CABINET SECRETARY**

**PREFACE**

Kenya Vision 2030 aims to transform the country into a newly industrializing, “middle income country providing a high-quality life to all its citizens by the year 2030”. Kenya intends to create a globally competitive and adaptive human resource base to meet the requirements of a rapidly industrializing economy through life-long education and training. TVET has a responsibility of facilitating the process of inculcating knowledge, skills and attitudes necessary for catapulting the nation to a globally competitive country, hence the paradigm shift to embrace Competency-Based Education and Training (CBET).

The Technical and Vocational Education and Training Act No. 29 of 2013 and the Sessional Paper No. 4 of 2016 on Reforming Education and Training in Kenya, emphasized the need toreform curriculum development, assessment and certification. This called for a shift to CBET to address the mismatch between skills acquired through training and skills needed by industry as well as increase the global competitiveness of Kenyan labour force.

The industry in conjunction with national polytechnics and other national agencies have developed this Carpentry and Joinery Craftsperson Level 5 Occupational Standard. The Standard is designed and organized with clear performance criteria for each element of a unit of competency. It also outlines the required knowledge and skills for the performance of prescribed tasks as well as evidence guide for assessment purposes.

**PRINCIPAL SECRETARY**

# ABBREVIATIONS AND ACRONYMS

CBET Competency Based Education and Training

EMCA Environmental Management and Coordination Act

ICT Information Communication Technology

ISO International Organization for Standardization

OS Occupational Standard

OSH Occupational Safety and Health

PPE Personal Protective Equipment

TVET Technical and Vocational Education and Training

# KEY TO ISCED UNIT CODE



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# OVERVIEW

Carpentry and Joinery Level 5 qualification consist of competencies that a person must achieve to enable him/her perform carpentry works. It involves constructing temporary works, fixing door and window frames, installing cabinetry works, carrying out rough carpentry, constructing doors & windows, fabricating timber furniture items, constructing timber floor and framed structures, cabinets, timber roofs, constructing and installing upholstery furniture, timber stairs, installing ceiling unit and constructing timber prefabricated buildings.

Carpentry and Joinery Level 5 qualification consists of the following basic, common and core units of learning.

**Basic Units of Competency**

|  |  |
| --- | --- |
| **ISCED Unit Code** | **Unit Title** |
| 0732 351 04A | Apply Workplace Essential Skills |
| 0732 451 10A | Apply Digital Literacy |

**Common Units of Competency**

|  |  |
| --- | --- |
| **ISCED Unit Code** | **Unit Title** |
| 0732 451 11A | Apply Basic Mathematics |
| 0732 451 12A | Prepare And Interpret Technical Drawing |

**Core Unit of Competency**

|  |  |
| --- | --- |
| **ISCED Unit Code** | **Unit Title** |
| 0732 251 01A | Construct Temporary Works |
| 0732 251 02A | Fix Door & Window Frames |
| 0732 251 03A | Carry out Cabinetry Works |
| 0732 351 05A | Carry Out Rough Carpentry |
| 0732 351 06A | Construct Doors and Windows |
| 0732 351 07A | Fabricate Timber Furniture Items |
| 0732 351 08A | Construct Timber Floors and Framed Structures |
| 0732 351 09A | Construct Cabinets |
| 0732 451 13A | Construct Timber Roofs |
| 0732 451 14A | Construct And Install Upholstery Furniture |
| 0732 451 15A | Construct Timber Stairs |
| 0732 451 16A | Install Ceiling Unit |
| 0732 451 17A | Construct Timber Prefabricated Buildings |

# 

# BASIC UNITS OF COMPETENCY

**APPLY WORKPLACE ESSENTIAL SKILLS**

**UNIT CODE:** 0732 351 04A

**UNIT DESCRIPTION**

This unit covers the competencies required to apply workplace essential skills. It involves applying communication skills, promoting work ethical practices, and values, and applying entrepreneurial skills.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  These describe the key outcomes that make up workplace function | **PERFORMANCE CRITERIA**  These assessable statements specify the required level of performance for each of the elements.  ***Bold and italicized terms*** ***are elaborated in the Range*** |
| --- | --- |
| 1. Apply Communication Skills | * 1. Specific communication methods are identified based on workplace requirements.   2. Identified ***communication methods*** are applied in accordance with workplace requirements.   3. Specific written communication strategies are identified based on workplace requirements.   4. Identified ***written communication methods*** are applied based on the workplace policy.   5. Non-verbal ***communication cues*** are identified in all areas as per workplace requirements.   6. Identified ***non-verbal communication cues are*** applied in all areas of the workplace requirements.   7. Pathways of ***oral communication*** are established as per workplace policy.   8. ***Group discussion techniques*** are applied based on workplace needs. |
| 1. Promote work ethical practices and values | 1. Personal management is demonstrated through self-awareness, self-esteem, emotional intelligence, stress management and assertiveness based on scope of work. 2. Policies and guidelines are observed as per the workplace requirements 3. Self-worth and professionalism is exercised in line with ***personal goals*** and organizational policies 4. Code of conduct is observed as per the workplace requirements 5. Teamwork is applied as per work place requirements 6. **Conflicts** are resolved between ***team*** members in line with organization policy. 7. ***Creative, innovative*** and practical solutions are developed based on the problem 8. ***Customer*** concerns and complaints are analyzed and resolved in line with the set organizational culture. |
| 1. Apply Entrepreneurial skills | 1. Personal finances are managed as per financial procedures and standards 2. Savings are managed as per financial procedures and standards 3. ***Sources of personal and business*** funds are identified as per financial procedures and standards 4. Investments are undertaken as per financial procedures and standards 5. ***Entrepreneurial roles and characteristics*** identified as per principles of Entrepreneurship 6. Salaried employment and self-employment are distinguished as per principles of entrepreneurship 7. ***Requirements for entry into self-employment*** are identified according to business procedures and standards 8. ***Regulatory requirements*** when starting a small business are identified as per business procedures and standards 9. Business planning is undertaken as per resource implications and regulatory framework |

**RANGE**

This section provides the work environment and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

| **Variable** | **Range** |
| --- | --- |
| 1. Written communication may include but not limited to: | * Memos * Letters * Notices * SMS |
| 1. Non-verbal strategies may include and not limited to: | * Posture * Gestures * Eye contact * Facial expressions * Dressing/Grooming |
| 1. Oral communication pathways may include and not limited to: | * Telephone calls * Face-to-face * Meetings * Interviews |
| 1. Group communication strategies may include but not limited to: | * Body language * Active listening * Concise language |
| 1. Conflicts include but are not limited to: | * Interpersonal Conflict. * Intrapersonal Conflict. * Intergroup Conflict. * Intragroup Conflict. |
| 1. Customer may include but not limited to: | * Loyal * Discount * Impulse * Need-based * Wandering |
| 1. Team may include but not limited to: | * Small workgroup * Staff in a section/department * Inter-agency Group * Virtual teams |
| 1. Creative and Innovation may include but are not limited to: | * New ideas * Original ideas * Different ideas * Methods/procedures * Processes * New tools |
| 1. Sources of personal finance mayinclude but are not limited to: | * Salary/Wages * Investments * Savings * Inheritance * Government Benefits |
| 1. Sources of business finance mayinclude but not limited to: | * Equity Financing * Debt Financing, * Personal Savings/Investment * Retained Earnings * Grants and Subsidies * Crowdfunding * Supplier credit: * Leasing and Asset Financing: |
| 1. Characteristics of Entrepreneurs may include but are not limited to: | * Creative * Innovative * Planner * Risk-taker * Networker * Confident * Flexible * Persistent * Patient * Independent * Future-oriented * Goal oriented |
| 1. Requirements for entry into self-employment may include but not limited to | * Technical skills * Management skills * Entrepreneurial skills * Resources * Infrastructure |
| 1. Legal requirements when starting a small business may include but not limited to: | * Business Registration * Business Name Registration * Business Permits and Licenses * Tax Registration * Compliance with Employment Laws |

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit of competency.

**Required Skills**

The individual needs to demonstrate the following skills:

* Active listening
* Interpretation
* Negotiation
* Writing
* Decision making
* Problem solving skills
* Team work
* Responsibility skills
* Critical thinking
* Organizational
* Negotiation
* Monitoring
* Creative/innovative thinking
* Adaptability
* Conflict management
* Emotional intelligence
* Leadership
* Critical thinking
* Networking
* Basic financial management skills
* Creativity
* Analytical
* Management
* Problem-solving
* Communication

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Effective verbal communication methods
* Simple effective questioning techniques
* Workplace etiquette
* Work planning
* Personal hygiene
* Accountability
* Workplace problems and how to deal with them
* Work values and ethics
* Company policies and procedures
* Company operations, procedures and standards
* Flexibility and adaptability
* Concept of time and leisure time
* Decision making
* Work planning
* Organizing work
* Gender and diversity mainstreaming
* Professional growth and development
* creativity
* Innovation
* problem-solving
* customer care
* mentoring and coaching.
* Emerging issues
* Decision making
* Competition
* Budgeting
* Investment
* Personal financial management
* Risk
* Time management
* Market and feasibility studies
* Relevant developments in other industries

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills knowledge, and range.

|  |  |
| --- | --- |
| 1. Critical aspects of Competency | Assessment requires evidence that the candidate:   * 1. Effected written communication based on workplace requirements.   2. Exercised non-verbal communication as per workplace requirements.   3. Executed group discussion strategies as per workplace policy.   4. Promoted team work based on workplace requirements   5. Promoted work ethical practices and values as per work place requirements   6. Budgeted Personal finance as per financial procedures and standards   7. Developed culture of Saving as per personal goals   8. Identified sources of personal and business finance as per financial procedures and standards   9. Undertook business planning as per resource implications and regulatory framework |
| 1. Resource Implications | 1. Access to relevant workplace where assessment can take place 2. Materials, equipment and tools relevant to the proposed activity or tasks |
| 1. Methods of Assessment | 3.1 Written tests   * 1. Observation   2. Oral questioning   3. Portfolio of Evidence   4. Interview   5. Third party report |
| 1. Context of Assessment | Competency may be assessed   1. On the job 2. Off the job 3. During industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# APPLY DIGITAL LITERACY

**UNIT CODE:** 0732 451 10A

**UNIT DESCRIPTION:**

This unit covers the competencies required to demonstrate digital literacy. It involves operating computer devices, solving tasks using the Office suite, performing online communication and collaboration, online jobs and applying job entry techniques.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  These describe the key outcomes that make up workplace functions | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements  ***(Bold and italicized terms are elaborated in the range)*** |
| --- | --- |
| 1. Operate computer devices | * 1. C***omputer device*** usage is determined as per workplace requirements.   2. ***Computer hardware*** is identified according to job requirements.   3. ***Computer software*** is identified according to workplace requirements.   4. Computer devices are turned on or off as per the correct workplace procedure.   5. ***Mouse techniques*** are applied in solving tasks as per workplace requirements.   6. Keyboardtechniques are applied in solving tasks as per workplace requirements.   7. Computer files and folders are created and managed as per workplace requirements.   8. ***Internet connection option***s are identified and applied in connecting computer devices to the Internet.   9. ***External devices*** are identified and connected to the computer devices as per the job requirement. |
| 1. Solve tasks using Office suite | 1. ***Word processing concepts***are applied in solving workplace tasks as per job requirements. 2. Worksheet data is entered and prepared in accordance with work procedures. 3. Worksheet data is built and edited in accordance with workplace procedures. 4. ***Data manipulation*** on a worksheet is undertaken in accordance with work requirements. 5. Worksheets are saved and printed in accordance with job requirements. 6. ***Electronic presentation concepts***are applied in solving workplace tasks as per job requirements. |
| 1. Perform online communication and collaboration | * 1. Netiquette principles are observed as per work requirements.   2. Electronic mail communication is executed in accordance with workplace policy.   3. Digital content copyright and licenses are identified and applied according to workplace policies and regulatory requirements.   4. ***Online*** ***collaboration tools*** are applied in accordance with workplace policies and regulatory requirements. |
| 1. Perform online jobs | * 1. ***Online job platforms*** are identified as per the job requirements.   2. Online accounts and profiles are created in accordance with the work requirements.   3. Online jobs are identified according to the bidder’s skillset.   4. Online digital identity is managed according to industry best practices.   5. Online job bidding is done as per the specific job requirements.   6. Online tasks are executed according to the job requirements.   7. Personal online payment account is managed in accordance with financial regulations. |
| 1. Apply job entry techniques | * 1. ***Job opportunities*** are sought based on competencies.   2. A winning resume/CV is developed as per job advertisement.   3. An application/cover letter is developed based on the job advertisement.   4. ***Certificates and testimonials*** are organized as per resume.   5. ***Interview skills*** are demonstrated as per job advertisement. |

**RANGE**

This section provides a work environment and conditions to which the performance criteria apply. It allows for a different work environment and situations that will affect performance.

| **Variable** | **Range** |
| --- | --- |
| 1. Computer devices may include but are not limited to: | * Desktops * Laptops * Smartphones * Tablets * Smartwatches |
| 1. Computer hardware may include but are not limited to: | * The System Unit E.g. Motherboard, CPU, casing, * Input Devices e.g. pointing, keying, scanning, voice/speech recognition, direct data capture devices. * Output Devices e.g. hardcopy output and softcopy output * Storage Devices e.g. main memory e.g. RAM, secondary storage (Solid state devices, Hard Drives, CDs & DVDs, Memory cards, Flash drives * Computer Ports e.g. HDMI, DVI, VGA, USB type C etc. |
| 1. Computer software may include but are not limited to: | * System software e.g. Operating System (Windows, Macintosh, Linux, Android, iOS) * Application Software e.g. Word Processors, Spreadsheets, Presentations etc. * Utility Software e.g. Antivirus programs |
| 1. External devices may include but are not limited to: | * Printers * Projectors * Smart Boards * Speakers * External storage drives * Digital/Smart TVs |
| 1. Word processing concepts may include but are not limited to: | * Creating word documents * Editing word documents * Formatting word documents * Saving word documents * Printing word documents |
| 1. Mouse techniques may include but are not limited to: | * Clicking * Double-clicking * Right-clicking * Drag and drop |
| 1. Internet connection options may include but are not limited to: | * Mobile Networks/Data Plans * Wireless Hotspots * Cabled (Ethernet/Fiber) * Dial-Up * Satellite * ISDN (Integrated Services Digital Network) |
| 1. Data manipulation may include but are not limited to: | * Use of formulae * Use of functions * Sorting * Filtering * Visual representation using charts |
| 1. Electronic presentation concepts may include but are not limited to: | * Creating slides * Editing slides * Formatting slides * Applying slide effects and transitions * Creating and playing slideshows * Saving presentations * Printing slides and handouts |
| 1. Online collaboration tools may include but are not limited to: | * Online Storage * Online productivity applications * Online meetings, * Online learning environments, * Online calendars * Social networks |
| 1. Online job platforms may include but are not limited to: | * Remotask * Data annotation.tech * Cloudworker * Upwork * Oneforma * Appen |
| 1. Job opportunities may include but not limited to: | * Self-employment * Service provision * product development * salaried employment |
| 1. Certificates and testimonialsmay include but not limited to: | * Academic credentials * Letters of previous employments/ services rendered * Letters of commendation * Certifications of participation * Awards |
| 1. Interview skills may include but not limited to: | * Listening skills * Grooming * Language command * Articulation of issues * Body language * Time management * Honesty * Generally knowledgeable in current affairs and technical area |

**REQUIRED KNOWLEDGE AND SKILLS**

This section describes the knowledge and skills required for this unit of competency.

**Required knowledge**

The individual needs to demonstrate knowledge of:

* Computer Hardware and Software Concepts
* Computer Security Concepts (Data security and privacy)
* Cyber security threats and control measures
* Understanding Computer Crimes
* Detection and protection against computer crimes
* Laws governing protection of ICT in Kenya
* Digital Identity Management
* Netiquette Principles
* Fundamentals of Copyright and Licenses
* Word processing;

Functions and concepts of word processing;

Documents and tables creation and manipulations;

Document editing;

Document formatting;

Word processing utilities

* Spreadsheets;

Meaning, types and importance of spreadsheets;

Components of spreadsheets;

Functions, formulae, and charts, uses and layout;

Data formulation, manipulation and application to cells;

Editing & formatting spreadsheets;

* Presentation Packages;

Types of presentation Packages.

Creating, formulating, running, editing, printing and presenting slides and handouts

* Networking and Internet;

Internet connectivity.

Browser and digital content management;

Managing data, information, and digital content

Electronic mail and World Wide Web

* Fundamentals of Online Working;

Online Profile Management;

e-Portfolio Management;

Online Jobs Bidding;

Online Payment Systems;

* Job entry techniques

Job searching sites

Interview preparation skills

Interview handling

**Required skills**

The individual needs to demonstrate the following skills:

* Active listening
* Keyboard Skills
* Mouse Skills
* Analytical skills
* Creativity
* Interpretation Skills
* Communication
* Spreadsheet operations (applying fundamental operations such as addition, subtraction, division and multiplication)
* Computer Use Safety Skills
* Document Editing Skills
* Document Formatting Skills
* Document Printing Skills
* Netiquette Skills
* Internet Browsing Skills
* Problem Solving Skills
* Online Collaboration Skills
* Cybersecurity Skills
* CV writing
* grooming

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge, and skills range.

|  |  |
| --- | --- |
| 1. Critical aspects of competency | ***Assessment requires evidence that the candidate:***   * 1. Operated computer devices as per workplace policies and regulations.   2. Solved tasks using the office suite as per workplace policies and regulations.   3. Managed data and information as per workplace policies and regulations.   4. Performed online communication and collaboration as per workplace policies and regulations.   5. Applied cybersecurity skills in accordance with the workplace policies and regulations.   6. Executed online tasks according to the job requirements.   7. Searched for job opportunities based on competencies.   8. Prepared job requirement documentation based on job opportunities.   9. Demonstrated interview skills based on the job opportunity. |
| 1. Resource implications | The following resources should be provided:   * 1. Appropriately simulated environment where assessment can take place.   2. Access to relevant work environments where assessment can take place.   3. Resources relevant to the proposed activities or task. |
| 1. Methods of assessment | Competency in this unit may be assessed through:   * 1. Observation   2. Oral assessment   3. Portfolio of evidence   4. Interviews   5. Third party report   6. Written assessment   7. Practical assessment   8. Projects |
| 1. Context of assessment | Competency may be assessed:   * 1. Workplace or simulated workplace. |
| 1. Guidance information for assessment | * 1. Holistic assessment with other units relevant to the industry sector and workplace job role is recommended. |

**COMMON UNITS OF COMPETENCY**

# APPLY BASIC MATHEMATICS

**UNIT CODE:** 0732 451 11A

**UNIT DESCRIPTION:**

This unit describes the competencies required in applying basic mathematics. It involves applying basic arithmetic, basic algebra, performing trigonometry calculations, geometrical calculations and carrying out mensuration.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  These describe the key outcomes which make up workplace function. | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements. ***(Bold and italicized terms are elaborated in the Range)*** |
| --- | --- |
| * 1. Apply basic arithmetic | * 1. Identify and use whole numbers and simple fractions, decimals and percentages as per the concepts   2. Understand place value, ranges, rounding off based on appropriate mathematical concepts   3. Rationalize arithmetic percentages and proportions based on the concepts   4. Express numbers decimal and standard form as per concepts |
| * 1. Apply basic Algebra | * 1. Performed calculations involving Indices as per the concept   2. Represented linear equations based on the concept   3. Scientific calculator is used in solving mathematical problems in line with the manufacturer’s manual   4. Simultaneous equations are performed as per the rules   5. Solved simple algebraic equations as per the concept   6. Form simple algebraic equations as per the concept |
| * 1. Perform Trigonometry calculations | * 1. Trigonometric calculations are identified based on trigonometric rules   2. Applied trigonometric rules as per the concepts   3. Calculations are performed using trigonometric rules |
| * 1. Perform geometric calculations | 1. Identified geometrical figures based on context 2. Calculated areas of figures as per the given formulae 3. Apply Pythagoras’ theorem based on the concept |
| * 1. Carry out basic Mensuration | * 1. Identified various ***units of measurement*** as per the course requirements   2. Converted units from one form to another as per mathematical concepts   3. Perimeters and areas of ***figures*** are obtained as per the correct formulae   4. Volume and Surface area of solids are obtained as per the correct formulae   5. Area of irregular figures are obtained as per the correct formulae |

**RANGE**

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Units of measurement may include but not limited to: | * + Millimetres   + Centimetres   + Inches   + Feet |
| 1. Figures may include but are not limited to: | * + square   + rectangle   + triangle   + polygons   + circles |

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit of competency.

**Required Skills**

The individual needs to demonstrate the following skills:

* Applying fundamental operations (addition, subtraction, division, multiplication)
* Using and applying mathematical formulas
* Logical thinking
* Problem-solving
* Using different measuring tool

**Required knowledge**

The individual needs to demonstrate knowledge of:

* Fundamental operations (addition, subtraction, division, multiplication)
* Calculating area and volume
* Types and purpose of measuring instruments
* Units of measurement and abbreviations
* Rounding techniques
* Types of fractions
* Types of tables and graphs
* Presentation of data in tables and graphs

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical aspects of Competency | Assessment requires evidence that the candidate:   1. Applied basic arithmetic as per the concept applied 2. Demonstrated ability to apply Trigonometry as per the concept 3. Carried out mensuration as per the objects given 4. Performed Simultaneous equations as per the rules 5. Solved simple algebraic equations as per the concept 6. Demonstrated knowledge of Applied statistics as per the concept required 7. Applied linear graphs as per the data set, quantities or variables provided |
| 1. Resource Implications | The following resources should be provided:   * 1. Access to relevant workplace or appropriately simulated environment where assessment can take place   2. Materials relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   1. Practical 2. Projects 3. Portfolio of evidence 4. Third party reports 5. Written tests |
| 1. Context of Assessment | The competency may be assessed in a workplace or a simulated workplace |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# PREPARE AND INTERPRET TECHNICAL DRAWINGS

**UNIT CODE:** 0732 451 12A

**UNIT DESCRIPTION**

This unit covers the competencies required to prepare and interpret technical drawings. It involves selecting, using and maintaining drawing equipment and materials, producing plain geometry drawings, solid geometry drawings and pictorial and orthographic drawings.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  This describes the key outcomes which make up workplace functions | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements (to be stated in passive voice)  ***Bold and italicized terms*** ***are elaborated in the Range*** |
| --- | --- |
| 1. Select, use, and maintain drawing equipment and materials | 1. ***Drawing equipment*** are identified and gathered according to task requirements 2. ***Drawing materials*** are identified and gathered according to task requirements 3. Drawing equipment are used and maintained as per manufacturer’s instructions 4. Drawing materials are used as per job requirements 5. Waste materials are disposed of in accordance with the workplace procedures and ***environmental legislation.*** |
| 1. Produce plane geometry drawings | * 1. Different types of lines used in drawing and their meanings are identified according to standard drawing conventions   2. Different types of geometric forms are constructed according to standard conventions   3. Different types of angles are constructed according to principles of trigonometry   4. Different types of angles are measured using appropriate measuring tools   5. Angles are bisected according to standard conventions   6. Freehand sketching of different types of geometric forms, tools, equipment, diagrams is conducted |
| 1. Produce solid geometry drawings | 1. Drawings of patterns are interpreted according to standard conventions 2. Developed surfaces of truncated regular solids 3. Developed surfaces of un truncated regular solids |
| 1. Produce orthographic and pictorial drawings | 1. Symbols and abbreviations are identified and their meaning interpreted according to standard drawing conventions 2. First and third angle orthographic drawings are interpreted and produced in accordance with the standard conventions 3. Orthographic elevations are dimensioned in accordance with standard conventions 4. Isometric drawings are interpreted and produced in accordance with standard conventions 5. Oblique drawings are interpreted as per standard conventions |

**RANGE**

| **Variable** | **Range** |
| --- | --- |
| 1. Drawing equipment may include but is not limited to: | * Drawing boards * T and set squares * drawing sets, |
| 1. Drawing materials may include but is not limited to: | * Drawing papers * Pencils * Erasers * masking tapes * paper clips |
| 1. Environmental legislations may include but is not limited to: | * EMCA 1999 |
| 1. Personal Protective Equipment may include but is not limited to: | * Dust coats * closed leather shoes |
| 1. Geometric forms may include but is not limited to: | * Circles * Triangles * Rectangles * Parallelogram * Polygons * Pyramids * conic sections * prisms, loci |

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit of competency.

**Required skills**

The individual needs to demonstrate the following skills:

* Critical thinking
* Drawing
* Interpretation
* Drawing equipment handling
* Communication
* Interpersonal

**Required knowledge**

The individual needs to demonstrate knowledge of:

* Drawing equipment and materials
* Freehand sketching
* Lettering
* Geometrical constructions
* Types of drawings
* Types of lines
* Isometric drawing conventions, features, characteristics, components
* Orthographic drawing conventions, features, characteristics, components
* Sketches and drawings of simple patterns

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and understanding and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   1. Selected, used, and maintained drawing equipment and materials appropriately 2. Was able to produce plain geometry drawings 3. Conducted freehand sketching of different types of geometric forms, tools, equipment, diagrams 4. Produced solid geometry drawings 5. Developed surfaces of truncated and un truncated regular solids 6. Produced pictorial and orthographic drawings correctly |
| 1. Resource Implications | The following resources should be provided:   1. Access to relevant workplace or appropriately simulated environment where assessment can take place 2. Measuring equipment 3. Materials relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency may be assessed through:   * 1. Practical tests   2. Observation |
| 1. Context of Assessment | Competency may be assessed   * 1. On-the-job   2. Off-the –job   3. During Industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

**CORE UNITS OF COMPETENCY**

**CONSTRUCT TEMPORARY WORKS**

**UNIT CODE:** **0732 251 01A**

**UNIT DESCRIPTION**

This unit describes the competencies required to construct temporary works. It involves setting out and preparing for temporary works, installing trench timbering for excavation support, constructing and erecting formwork for concrete structures, installing and securing shuttering for concrete works, dismantling and removing temporary works.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT** | **PERFORMANCE CRITERIA**  *(Bold and italicized terms are elaborated in the Range)* |
| --- | --- |
| 1. Set out and prepare for temporary works | * 1. ***Personal protective equipment*** is selected, fitted and used according to safety rules and regulations   2. Drawings for temporary structures are interpreted according to the structural drawings.   3. ***Materials***, tools and equipment are identified and prepared as per the job task.   4. Materials are measured and marked out as per the drawings.   5. Safety regulations and risk management is ensured to comply with the site procedures as per safety requirements   6. Performed housekeeping practices as per workplace procedures |
| 1. Install trench timbering for excavation support | * 1. ***Trench timbering materials, tools and equipment*** are selected and prepared as per the drawings and instructions.   2. Timber walling boards, poling boards, struts for trench support are installed as per the drawings.   3. The structure is secured and braced depending with the ***soil type*** to prevent collapse according to the drawing   4. Ensured safe access and stability of trench timbering as per the building codes   5. Timbering is inspected and maintained throughout the excavation works as per the instructions   6. Performed housekeeping practices as per workplace procedures |
| 1. Construct and erect formwork for concrete structures | * 1. Personal protective equipment is selected, fitted and used according to safety rules and regulations   2. Formwork dimensions are determined as per the structural elements to be supported   3. Formwork material is identified as per structure complexity, job drawings or supervisor instructions   4. ***Formwork type*** is erected according to the structural element to be cast as per the structural drawing   5. Oiling of timber formwork surface is carried as per job instructions   6. Formwork is fixed into position in accordance with the construction rules and regulations   7. Formwork is dismantled according to site procedures and critical structural safety requirements   8. Performed housekeeping practices after construction of formwork as per workplace procedures |
| 1. Install and secure shuttering for concrete works | * 1. Shuttering boards or panels are cut and assembled to required sizes as per the drawing and instruction   2. Shuttering are positioned and fitted for vertical and horizontal elements as per the working drawings and site instructions   3. Provided reinforcement access and ensured proper sealing to prevent leaks as per site instructions   4. Inspected and reinforced shuttering before pouring concrete as per engineer’s instructions and approval   5. Performed housekeeping practices after construction of shuttering as per workplace procedures |
| 1. Dismantle and remove temporary works | * 1. Assessed and confirmed concrete curing before formwork/shuttering removal as per instructions   2. Supports are removed carefully without damaging concrete as per instructions   3. Reusable materials are cleaned, repaired and stored for future use as per site instructions   4. Restored work site condition and disposed waste materials as per regulations and instructions.   5. Performed housekeeping practices as per workplace procedures |

**Range**

| **Variable** | **Range** |
| --- | --- |
| 1. Personal protective equipment may include but is not limited to: | * Helmets * Safety boots * Gloves * Overall * Reflectors |
| 1. Formwork material may include but is not limited to: | * Timber * Metal plates * Plastic |
| 1. Formwork type may include but is not limited to: | * Column formwork * Beam formwork * Floor formwork * Wall formwork * Permanent formwork |
| 1. Trench timbering materials, tools and equipment may include but is not limited to: | * Timber * Hammer * Metal plates * Pliers * Nails * Binding wires |
| 1. Soil type may include but is not limited to: | * firm soil * Loose soil * Waterlogged soil |

**REQUIRED KNOWLEDGe and SKILLS**

**knowledge**

* Measurement
* Formwork
* Shuttering
* Soil properties
* Wall construction
* Trench excavation
* Basic arithmetic
* Technical drawings

**Skills**

* Measurement skills
* Basic mathematic skills
* Reading skills
* Communication skills
* Construction tools handling skills

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Drawings are interpreted and materials, tools and equipment prepared.   2. Constructed and dismantled trench timbering   3. Constructed and dismantled building formwork   4. Erected and dismantled building Shuttering.   5. Observed occupational health and safety procedures to create a safe working environment |
| 1. Resource Implications | The following resources should be provided:   * 1. Access to relevant workplace or appropriately simulated environment where assessment can take place   2. Measuring equipment   3. Materials relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency may be assessed through:   * 1. Practical assignment   2. Written   3. Oral interview   4. Demonstrations |
| 1. Context of Assessment | Competency may be assessed  4.1. On-the-job  4.2. Off-the –job  4.3. During Industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

**FIX DOOR AND WINDOW FRAMES**

**UNIT CODE :** **0732 251 02A**

**UNIT DESCRIPTION**

This unit describes the competence required to fix door and window frames. It involves setting out and preparing openings for frames, positioning and securing door and window frames, applying fixings and reinforcements and finishing and inspecting installed frames.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENTS**  These describe the key outcomes which make up the workplace function | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements  *(Bold terms are elaborated in the Range)* |
| --- | --- |
| 1. Set Out and Prepare Openings for Frames | * 1. Drawings are interpreted for door and window frame installation as per the working drawings.   2. Dimensions of openings are verified as per the design requirements.   3. Materials, tools and equipment are identified as per the job requirement.   4. Openings are aligned ensuring plumbness, levelness and squareness as per the site instructions.   5. Surfaces are prepared and necessary treatments are applied as per the instructions. |
| 1. Position and Secure Door and Window Frames | * 1. ***Type of door and window frames*** are identified as per the design requirements.   2. Lifting techniques are applied as per the instructions to prevent damage.   3. ***Door and Window Frames*** are temporarily secured using wedges and clamps as per the job requirement.   4. Plumbness, Levelness and Alignment are checked as per site instructions.   5. Allowed for expansion gaps and applied packing techniques as per instruction. |
| 1. Apply Fixings and Reinforcements | * 1. Appropriate fixings and reinforcements are selected as per the job requirements.   2. Fixings are installed to secure frames as per the instructions.   3. Structural stability is reinforced as per the job requirements and instructions.   4. Fixings and reinforcements are inspected and tested as per the requirements. |
| 1. Finish and Inspect Installed Frames | * 1. Surace is prepared for finishing as per the job requirement.   2. Protective and decorative finishes are applied as per the job requirement.   3. Installed frames are inspected for quality and compliance as per the job requirement.   4. Adjustments and corrections are made where necessary as per the instructions.   5. Performed housekeeping practices as per workplace procedures |

**RANGE**

| **Variable** | **Range** |
| --- | --- |
| 1. Materials may include but are not limited to: | * + Hardwood   + Soft wood   + Manufactured boards   + Ironmongery |
| 1. Tools & equipment may include but are not limited to: | * + Planes   + Square   + Saws   + Chisel saws   + Claw hammer   + Mallet   + Tape measure   + Screw driver |
| 1. Door frame members may include: | * + Jambs   + Posts   + Heads   + Horn   + Transome   + Vent light |
| 1. Window frame members may include but are not limited to: | * + Head   + Sill (or Cill)   + Jambs   + Mullion   + Transom |

**REQUIRED KNOWLEDGE and SKILLS**

**Knowledge**

* Building code
* Codes of practice
* Basic arithmetic
* Measurement
* Types of door and window frames
* Methods of finishing processes

**Skills**

* Measurement
* Basic arithmetic
* Design
* Planning

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Interpreted drawings and dimensions for door and window frame installation   2. Fixed door and window frames accurately   3. Applied fixings and reinforcements to the frames   4. Performed finishing processes accordingly |
| 1. Resource Implications | The following resources should be provided:   1. Access to relevant workplace or appropriately simulated environment where assessment can take place 2. Materials relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency may be assessed through:   * 1. Demonstration   2. Practical assignment/project   3. Interview/Oral Questioning   4. Written |
| 1. Context of Assessment | Competency may be assessed  4.1 On-the-job  4.2 Off-the –job  4.3 During Industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the carpentry and joinery sector workplace and job role is recommended. |

**CARRY OUT CABINETRY WORKS**

**UNIT CODE:** **0732 251 03A**

UNIT DESCRIPTION

This unit specifies the competencies required to carry out cabinetry works. It involves setting out and preparing work area, assembling and preparing cabinet units, installing built in cabinets, kitchen cabinets, and wardrobes.

ELEMENTS AND PERFORMANCE CRITERIA

|  |  |
| --- | --- |
| **ELEMENT**  These describe the key outcomes which make up workplace function. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the Range*** |
| * 1. Set out and prepare work area | * 1. Drawings and measurements are interpreted for cabinetry installation as per the drawings.   2. Site conditions, wall, and floor levels are verified for cabinet fitting as per the job requirement.   3. ***Materials, tools and equipment*** are identified and prepared as per the job requirement.   4. Cleaned the workspace as per the job requirement |
| * 1. Assemble and Prepare Cabinet Units | 1. PPEs are donned as per the job requirements. 2. Cabinet componets are checked and sorted according to the design specifications. 3. Cabinet units are assembled using appropriate ***joinery techniques*** as per the job requirement. 4. Squareness, Levelness and Plumbness are checked to ensure sound assembly as per the job reuirement. 5. Holes are pre-drilled for hardware, handles and fittings as per the job requirement. 6. Built-in cabinetry background is prepared as per the working design. |
| * 1. Install Built-in Cabinets, Kitchen Cabinets and Wardrobes | 1. Built-in cabinetry tools and equipment are assembled as per job requirement. 2. Built-in cabinetry materials are selected as per working design. 3. Built-in cabinetry frame is constructed per the working design. 4. ***Built-in cabinetry elements*** are fixed together by the use of carpentry ***fasteners and adhesive*** as per the working design. 5. Built-in cabinetry shelves, doors and drawers are installed using ***carpentry hardware*** as per the working design. 6. Housekeeping practices are performed after installing built-in cabinetry works as per workplace procedures |

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

|  |  |
| --- | --- |
| **Variables** | **Range** |
| * 1. Cabinetry work tools, and equipment may include but are not limited to; | * Measuring tape * Mortise gauge * Rip saw * Claw hammer * Working bench * Bench vice * Drill * Clamps * Tenon saw * Jigsaw * Router * Sanders |
| * 1. Joinery techniques may include but are not limited to: | * Nails * Screws * Dowels * Bolts and Nuts * Clamps * Wood glue * Rivets |
| * 1. Cabinetry works materials may include but are not limited to; | * Sawn timber * MDF * Plywood * Batten boards * Chip boards * Marine boards |
| * 1. Cabinetry elements may include but are not limited to; | * Bookcase * Buffet cabinet * Shelving * Drawers * Doors * Office cabinets |
| * 1. Kitchen cabinetry works elements may include but are not limited to; | * Beaded * Shaker * Flat panel * Wall * Base * Tall-standing. |
| * 1. Carpentry fasteners and adhesives may include but are not limited to; | * Iron nails * Screws * Panel pins * Plates * Conta * Silicon * Wood glue |
| * 1. Carpentry hardware may include but not limited to; | * Hinges * Catches * Locks * Bolts |

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required Skills

The individual needs to demonstrate the following skills: s

* Communication skills
* Interpretation skills
* Problem-solving skills
* Critical thinking skills
* Joining and jointing skills
* Organizing skills
* Measuring skills
* Numeracy skills
* Cutting skills
* Interpersonal Relationship skills

REQUIRED KNOWLEDGE

The individual needs to demonstrate knowledge of:

* Interpretation of symbols
* Conversion of units
* Levelling
* Cabinetry materials and supplies
* Cabinetry tools and equipment
* Types of manufactured boards
* Materials and supplies
* Joining and jointing
* Mensuration
* Cabinetry types and systems
* Functionality tests
* Use of power tools

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of  Competency | Assessment requires evidence that the candidate:   1. Built-in cabinetry ***tools and equipment*** are assembled as per job requirement. 2. Built-in cabinetry ***materials*** are selected as per working design. 3. Built-in ***cabinetry elements*** are fixed together by the use of ***carpentry fasteners and adhesive*** as per the working design. 4. Built-in cabinetry shelves, doors and drawers are installed using ***carpentry hardware*** as per the working design. 5. Cabinetry elements are fixed together by the use of ***carpentry fasteners and adhesive*** as per the working design. 6. ***Cabinetry components*** are installed using ***carpentry hardware*** as per the working design. 7. Housekeeping practices are performed after installing built-in cabinetry works as per workplace procedures. |
| 2. Resource Implications | The following resources must be provided:  2.1 A functional workshop with carpentry and joinery tools, equipment, materials and supplies.  2.2 References and manuals including construction working drawings  2.3 Personal protective equipment |
| 3. Methods of  Assessment | Competency may be assessed through:  3.1 Practical Tests  3.2 Oral Questioning  3.3 Written Tests  3.4 Third party report  3.5 Portfolio |
| 4. Context of  Assessment | Assessment may be done:  4.1 On-the-job,  4.2 Off-the-job or  4.3 During Work placement. |
| 5. Guidance  information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended |

**CARRY OUT ROUGH CARPENTRY**

**UNIT CODE: 0732 351 05A**

**UNIT DESCRIPTION**

This unit describes the competences required to carry out rough carpentry. It involves setting out rough carpentry, fixing rough carpentry members and dismantling rough carpentry members.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT** | **PERFORMANCE CRITERIA**  *(Bold and italicized terms are elaborated in the Range)* |
| --- | --- |
| * + - 1. Set out rough carpentry | * 1. Personal protective equipment (PPEs) is donned as per job requirements   2. ***Rough carpentry*** setting out tools are handled as per the manufacturer's instructions   3. Rough carpentry site is cleared as per the job requirements   4. ***Rough carpentry member*** positions are marked out as per the job requirements   5. Housekeeping practices are carried out as per workplace procedures |
| * + - 1. Fix rough carpentry members | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Rough carpentry erecting ***tools and equipment*** are handled as per the manufacturer's instructions   3. ***Rough carpentry*** ***materials*** are assembled as per the job requirements   4. Rough carpentry members are placed in position as per job requirement   5. Rough carpentry members are aligned as per job requirement   6. Rough carpentry members are fixed in position as per job requirement   7. ***Housekeeping*** practices are carried out as per workplace procedures |
| * + - 1. Dismantle rough carpentry members | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Rough carpentry dismantling tools and equipment are handled as per the manufacturer's instructions   3. Rough carpentry support members are removed as per the job requirements   4. Rough carpentry ***fasteners*** are unfastened as per the job requirements   5. Rough carpentry members are dismantled as per the job requirements   6. Housekeeping practices are carried out as per workplace procedures   7. Timber waste is recycled into handicrafts and consumer goods |

**RANGE**

| **Variable** | **Range** |
| --- | --- |
| 1. Rough carpentry may include but not limited to: | * Hoarding * Shoring * Scaffolding |
| 1. Rough carpentry members may include but not limited to: | * Props * Studs * Struts * Runners * Ties |
| 1. Rough carpentry erecting tools may include but is not limited to: | * Marking tools * Measuring and testing tools * Driving tools * Boring tools * Cutting tools * Setting out tools |
| 1. Rough carpentry Materials may include but is not limited to: | * Plywood * Timber poles * Iron sheets * Fibre boards |
| 1. Housekeeping may include but is not limited to: | * Cleaning * Clearing * Keep workplace tidy |
| 1. Fasteners may include but not limited to: | * Bolt and nuts * Screws * Nails * Swivels |

**REQUIRED KNOWLEDGE**

* Types of timber
* Simple arithmetic calculations
* Carpentry and joinery tool
* Formwork construction
* Construction dimensions
* Architectural drawing

**SKILLS**

* Interpret working drawing
* Communication skills
* Designing
* Computer literacy
* Planning
* Enterpreneurship skills

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   1. Marked out rough carpentry member positions as per the job requirements 2. Placed rough carpentry members in position as per the job requirements 3. Aligned rough carpentry members as per the job requirements 4. Fixed rough carpentry members in position as per the job requirements 5. Removed rough carpentry support members as per the job requirements 6. Unfastened rough carpentry fasteners as per the job requirements 7. Dismantled rough carpentry members as per the job requirements |
| 1. Resource Implications | The following resources should be provided:   * 1. appropriately simulated environment where assessment can take place   2. Access to relevant work environment   3. Resources relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   * 1. Practical   2. Projects   3. Written tests   4. Portfolio of evidence   5. Third party reports |
| 1. Context of Assessment | The competency may be assessed in a workplace or a simulated workplace |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

**CONSTRUCT DOORS AND WINDOWS**

**UNIT CODE : 0732 351 06A**

**UNIT DESCRIPTION**

This unit describes the competence required to construct doors and windows. It involves, marking and cutting out door & window component profile, fitting door & window joints, performing door & window finishes and erecting doors and windows.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENTS**  These describe the key outcomes which make up workplace function | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements  *(Bold terms are elaborated in the Range)* |
| --- | --- |
| 1. Mark and Cut out door & window component profile | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. ***Types of doors and windows*** are identified as per the working drawing   3. Doors & Windows marking and cutting-out tools are handled as per the manufacturer’s specifications   4. ***Door & Window*** ***materials*** are assembled as per the working drawings   5. Doors & Window frames component profile is marked and cut out according to the working drawing   6. Doors & Windows component profile is marked and cut out as per the working drawing   7. Housekeeping practices are performed as per workplace procedures |
| 1. Fit Door and Window joints | * 1. Personal protective equipment (PPEs) is donned as per job requirements   2. Doors & Window fixing tools are handled as per the manufacturer’s specifications   3. Doors & Window frames joints are fixed as per the working drawing.   4. Doors & Window joints are assembled as per the working drawing   5. Housekeeping practices are performed after fixing timber joints as per workplace procedures |
| 1. Perform door & window finishes | * 1. Personal protective equipment (PPEs) is donned as per job requirements   2. Doors & Windows finishing tools and equipment are handled as per manufacturer’s specifications   3. Doors & Windows finishing materials are assembled as per job requirements   4. ***Surface preparation*** is carried out as per job requirements   5. ***Surface coating*** is carried out as per job requirements   6. Housekeeping practices are performed after finishing process as per workplace procedures |
| 1. Erect doors and Windows | * 1. Personal protective equipment (PPEs) is donned as per job requirements   2. Doors & Windows erecting tools and equipment are handled as per manufacturer’s specifications   3. Doors & Windows erecting ***materials*** are assembled as per job requirements   4. ***Background preparation*** is carried out as per the job requirements   5. Doors and Windows are erected as per the working drawings   6. Door and Window frame ***quality checks*** are carried out as per the job requirements.   7. ***Door architrave*** is fixed as per the working drawings   8. Housekeeping practices are performed after finishing process as per workplace procedures   9. Timber waste is recycled into handicrafts and consumer goods |

**RANGE**

| **Variable** | **Range** |
| --- | --- |
| 1. Door & Window materials may include but is not limited to: | * + Hard wood   + Soft wood   + Manufactured boards   + Ironmongery |
| 1. Door & Window joints may include but not limited to: | * Mortise and tenon * Dove tail * Bridle joint * Housing joint   + Tongue and groove |
| 1. Types of Architraves | * Straight * Curved |
| 1. Quality checks | * Levelness * Plumbness * Squareness |
| 1. Surface preparation: | * + Scrapping   + Planing   + Filling   + Sanding |
| 1. Background preparation | * + Chasing   + Pilot hole drilling   + Plugging |
| 1. Surface coating | * + Varnishing   + Painting   + Laminating   + Staining   + Waxing |

**REQUIRED KNOWLEDGE and SKILLS**

**Knowledge**

* Construction dimensions
* Architectural drawing
* Local authority by-laws
* Building code
* Structural elements
* Codes of practice
* Basic arithmetic
* Measurement
* Building drawing
* Types of doors
* Methods of finishing processes
* Marking and cutting tools and equipments

**Skills**

* Measurement
* Basic arithmetic
* Design
* Computer literacy
* Planing

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Handled the tools and equipment as per the manufacturer’s specifications   2. Marked out product profiles as per the working drawings   3. Cut out product profile as per the working drawings   4. Marked out joints as per the working drawings   5. Cut out joints as per the working drawings   6. Fixed the joints as per the working drawings   7. Mounted the door and window as per the working drawings   8. Fixed the architrave as per the working drawings.   9. Prepared the surface as per the job requirements   10. Coated the surface as per the job requirements |
| 1. Resource Implications | The following resources should be provided:   * 1. appropriately simulated environment where assessment can take place   2. Access to relevant work environment   3. Resources relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   * 1. Practical   2. Projects   3. Written tests   4. Portfolio of evidence   5. Third party reports |
| 1. Context of Assessment | The competency may be assessed in a workplace or a simulated workplace |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

**FABRICATE TIMBER FURNITURE ITEMS**

**UNIT CODE: 0732 351 07A**

**UNIT DESCRIPTION**

This unit describes the competences required to Fabricate timber furniture items. It involves interpreting working drawings, making up furniture components, assembling furniture components and performing furniture finishes.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT** | **PERFORMANCE CRITERIA**  *(Bold and italicized terms are elaborated in the Range)* |
| --- | --- |
| 1. Interpret Working Drawings | * 1. The purpose of working drawings is explained, including their role in furniture fabrication as per the requirements.   2. Types of drawings are identified and described as per job requirement.   3. The concept of scale is explained and used to calculate actual dimensions using architectural scales.   4. Key components of working drawings are identified as per the job requirement.   5. Drawings are accurately read and interpreted as per the requirements.   6. Information from drawings is applied correctly in work processes as per job requirements. |
| 1. Make-up furniture components | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Furniture component profile ***cutting-out tools*** are handled as per manufacturers specifications   3. ***Furniture component materials*** are assembled as per working drawings   4. ***Furniture component*** profile is marked out as per the working drawings   5. Furniture component profile is cut out as per the working drawing   6. Furniture joints are marked out as per the working drawing   7. Furniture joints are cut out as per the working drawing   8. Furniture joints are fitted as per the working drawings   9. Housekeeping practices are carried out as per workplace procedures. |
| 1. Assemble furniture components | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Furniture assembly tools and equipment are handled as per the manufacturers' specifications   3. ***Furniture*** ***joints*** are fixed as per the working drawings.   4. Furniture strength and stability is examined as per job requirements.   5. Housekeeping practices are carried out as per |
| 1. Perform furniture finishing | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Furniture finishing tools and equipment are handled as per the manufacturers' specifications   3. Furniture finishing materials are assembled as per job requirements   4. Furniture surface gaps are filled as per the job requirements   5. Furniture ***surface preparation*** is carried out as per the job requirements   6. Furniture ***surface coating*** is carried out as per the job requirements   7. ***Housekeeping*** practices are carried out as per workplace procedures   8. Timber waste is recycled into handicrafts and consumer goods |

**RANGE**

| **Variable** | **Range** |
| --- | --- |
| 1. Profile cutting-out tools may include but is not limited to: | * Marking tools * Measuring and testing tools * Driving tools * Boring tools * Cutting tools * Planning and shaping tools * Setting out tools |
| 1. Furniture component materials may include but is not limited to: | * Plywood * Fibreboard * Block board * soft board |
| 1. Furniture components may include but not limited to: | * Table legs * Table tops * Drawers * Furniture handles |
| 1. Furniture joints may include but not limited to: | * Mortise and tenon joint * Dove tail joint * Bridle joint * Housing joint * Scarf joint |
| 1. Surface preparation | * + scrapping   + Planing   + Filling * Sanding |
| 1. Surface coating | * + Varnishing   + Painting   + Laminating   + Staining |
| 1. Housekeeping may include but is not limited to: | * Cleaning * Clearing   + Keep workplace tidy |

**REQUIRED KNOWLEDGE**

* Types of timber
* Simple arithmetic calculations
* Carpentry and joinery tools
* Types of timber
* Furniture construction
* Construction dimensions
* Architectural drawing
* Examples of furniture items

**SKILLS**

* Interpret working drawing
* Communication skills
* Design
* Computer literacy
* Planning
* Enterpreneurship skills

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   1. Handled tools and equipment as per the manufacturer’s specifications 2. Cut out component profile as per the working drawings 3. Marked out furniture joints as per the working drawings 4. Cut out furniture joints as per the working drawings 5. Fitted furniture joints as per the working drawings 6. Fixed furniture joints as per the working drawings 7. Prepared furniture surface as per the job requirements 8. Coated the furniture surface as per the job requirements |
| 1. Resource Implications | The following resources should be provided:   * 1. appropriately simulated environment where assessment can take place   2. Access to relevant work environment   3. Resources relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   * 1. Practical   2. Projects   3. Written tests   4. Portfolio of evidence   5. Third party reports |
| 1. Context of Assessment | The competency may be assessed in a workplace or a simulated workplace |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

**CONSTRUCT TIMBER FLOORS AND FRAMED STRUCTURES**

**UNIT CODE: 0732 351 08A**

**UNIT DESCRIPTION**

This unit describes the competences required to construct timber floors and timber framed buildings. It entails interpreting working drawing, constructing timber floors, finishing on timber floors, constructing timber framed structures and finishing on timber framed structures.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT** | **PERFORMANCE CRITERIA**  *(Bold and italicized terms are elaborated in the Range)* |
| --- | --- |
| 1. Interpret working drawings | 1. Working drawings are interpreted based on building code 2. Measurements are extracted and converted as required by the working drawing 3. Symbols are identified and interpreted based on International technical drawing (ISO 128) |
| 1. Construct timber floors | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. ***Materials***, tools and equipment selected and prepared as per the work place procedure   3. Setting out floor components is done according to the working drawings   4. Timber floor components are cut as per working drawings   5. Assembly and fixing of floor components is done according to job specifications   6. Timber floor level is checked as per job requirements   7. ***Timber floor covering*** is laid as per working drawings   8. Housekeeping practices are carried out as per workplace procedures |
| 1. Finishing on timber floors | 1. Personal protective equipment (PPE) is donned as per job requirements 2. Timber floor finishing materials, tools, and equipment are assembled as per the job requirements. 3. ***Prepared timber floor surfaces*** as per the job requirements 4. Applied suitable ***finishes*** as per the guidelines 5. Mounted timber floor skirting as per the working drawings 6. Housekeeping practices are carried out as per workplace procedures |
| 1. Construct timber framed structures | 1. Personal protective equipment (PPE) is donned as per the job requirements 2. Identified the ***methods of timber frame construction*** as per the working drawings 3. Prepared the materials, tools and equipment as per the job requirements 4. Accurately set out and mark dimensions for frames based on the working drawings 5. Cut and assembled frame components as per the working drawings 6. Erected and fixed the frames securely, ensuring a plumb, level and square construction as per the building regulations. 7. Disposed waste as per the environment regulations |
| 5. Finishing on timber framed structures | 1. Personal protective equipment (PPE) is donned as per the job requirements 2. Applied appropriate surface treatments to protect against environmental factors 3. Fitted the ***cladding*** as per the building regulations 4. Installed ***wall second fixtures*** as per job requirements 5. Perform workplace housekeeping procedures as per work place procedures 6. Timber waste is recycled into handicrafts and consumer goods |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| * Methods of timber frame construction may include but is not limited to: | * Platform * Ballon |
| * Timber frame cladding materials may include but is not limited to: | * Timber * Manufactured boards * G.I Sheets |
| * Wall second fixtures may include but is not limited to: | * Picture rail * Dado rail * Pelmet box |
| * Wood treatments may include but is not limited to: | * Oil borne * Water borne * Metallic salts * Chemical treatments * Borate treatments |
| * Timber flooring Materialsmay include but is not limited to: | Structural and finishing member materials   * Joists * Sill plates * Bearer * Battens |
| * Timber flooring covering materials may include but not limited to: | * Timber boards * Parquet boards |
| * Surface coating include: | * Varnishing * Painting * Staining * Waxing * Laminating |
| * Setting out tools and equipment may include but is not limited to: | * Marking tools * Measuring and testing tools * Driving tools * Cutting tools * Planning and shaping tools * Setting out tools |

**REQUIRED KNOWLEDGE**

* Basic calculations
* Dimensioning
* Wood preservatives
* Selection of materials
* Various types of timber
* Joining materials
* Timber decking
* Selection of materials

**SKILLS**

* Interpretation of working drawing
* Handling of tools and equipments
* Measuring, cutting, marking skills
* Levelling

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   1. Extracted the measurements as per the working drawings 2. Prepared timber floor materials as per working drawing 3. Selected tools and equipment appropriately 4. Set out timber floors as per the working drawing 5. Cut out floor members as per working drawing 6. Assembled timber floor members as per the working drawing 7. Laid timber floor covering as per the working drawings 8. Mounted a skirting as per the working drawings 9. Performed finishing on timber floors as per job requirement 10. Constructed timber framed structures as per the working drawings 11. Performed finishing on timber frame structures as per job requirements 12. Installed second wall fixtures on timber frame structures as per the job requirements. 13. Performed housekeeping according workplace procedures |
| 1. Resource Implications | The following resources should be provided:  2.1 Access to relevant workplace or appropriately simulated environment where assessment can take place  2.2 Materials relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency may be assessed through:   * 1. Written Test   2. Demonstration   3. Practical assignment   4. Interview/Oral Questioning |
| 1. Context of Assessment | Competency may be assessed   1. On the job 2. Off the job 3. During industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

**CONSTRUCT CABINETS**

**UNIT CODE: 0732 351 09A**

**UNIT DESCRIPTION**

This unit describes the competences required to carry out cabinetry works. It involves interpreting working drawings, cutting out cabinetry members, preparing cabinetry background and performing cabinetry finishes.

**ELEMENTS AND PERFORMANCE CRITERIA**



| **ELEMENT** | **PERFORMANCE CRITERIA**  *(Bold and italicized terms are elaborated in the Range)* |
| --- | --- |
| 1. Interpret Working Drawings | * 1. The purpose of working drawings is explained, including their role in cabinet fabrication as per the requirements.   2. Types of drawings are identified and described as per job requirement.   3. The concept of scale is explained and used to calculate actual dimensions using architectural scales.   4. Key components of working drawings are identified as per the job requirement.   5. Drawings are accurately read and interpreted as per the requirements.   6. Information from drawings is applied correctly in work processes as per job requirements. |
| 1. Cut out cabinetry members | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. ***Cabinetry*** ***construction materials*** are assembled as per working drawings   3. Cabinetry ***tools and equipment*** are handled as per the manufacturer's specification   4. ***Cabinetry members*** are marked out as per the working drawings   5. Cabinetry members are cut out as per the working drawings   6. Housekeeping practices are carried out as per workplace procedures. |
| 1. Prepare cabinetry background | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Cabinetry background preparation tools and equipment are assembled as per the job requirements   3. Cabinetry background preparation materials are assembled as per the job requirements   4. Cabinetry background is set out as per the job requirements   5. Cabinetry background ***templating*** is traced as per the job requirements   6. Housekeeping practices are carried out as per workplace procedures. |
| 1. Perform cabinetry finishes | 1. Personal protective equipment (PPEs) is donned as per job requirements 2. Cabinetry finishing tools and equipment are handled as per the manufacturer’s specifications 3. Cabinetry finishing materials are assembled as per the job requirements 4. ***Cabinetry second fixtures*** are erected as per the job requirements 5. Cabinetry ***surface preparation*** is performed as per the job requirement 6. Cabinetry ***surface coating*** is performed as per the job requirement 7. Housekeeping practices are carried out as per workplace procedures 8. Timber waste is recycled into handicrafts and consumer goods |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Cabinetry construction materials may include but is not limited to: | * Plywood * Fibre boards * Block boards * Soft boards |
| 1. Tools and equipment may include but is not limited to: | * Marking tools * Measuring and testing tools * Driving tools * Boring tools * Cutting tools * Planning and shaping tools * Setting out tools |
| 1. Cabinetry members may include but not limited to: | * Drawers * Shelves * Cabinet doors |
| 1. Templating may include but not limited to: | * Pilot hole drilling * Plugging * Tracing |
| 1. Cabinetry second fixtures include but are not limited to | * Cornice * Fixing Cabinets * Skirting |
| 1. Surface preparation | * + Scrapping   + Planing   + Filling * Sanding |
| 1. Surface coating | * + Varnishing   + Painting   + Laminating   + Staining   + Epoxy application |

**REQUIRED KNOWLEDGE**

* Basic calculations
* Selection of materials
* Various types of timber
* Joining materials

**SKILLS**

* Interpretation of working drawing
* Handling of tools and equipments
* Measuring, cutting, marking skills

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   1. Handled cabinetry tools and equipment as per the manufacturer’s specifications 2. Marked out cabinetry members as per the working drawings 3. Cut out cabinetry members as per the working drawings 4. Prepared cabinetry background as per the job requirements 5. Fixed cabinetry members as per the working drawings 6. Erected cabinetry second fixtures as per the job requirements 7. Performed cabinetry surface preparation as per the job requirements 8. Performed cabinetry surface coating as per the job requirements |
| 1. Resource Implications | The following resources should be provided:   * 1. appropriately simulated environment where assessment can take place   2. Access to relevant work environment   3. Resources relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   * 1. Practical   2. Projects   3. Written tests   4. Portfolio of evidence   5. Third party reports |
| 1. Context of Assessment | The competency may be assessed in a workplace or a simulated workplace |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# CONSTRUCT TIMBER ROOFS

**UNIT CODE: 0732 451 13A**

**UNIT DESCRIPTION**

This unit describes the competences required to construct timber roofs. It involves preparing construction materials, assembling truss members, erecting roof trusses, fixing timber roof members and fixing roof cover.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENTS**  These describe the key outcomes which make up workplace function | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***(Bold terms are elaborated in the Range)*** |
| --- | --- |
| 1. Prepare Construction materials | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Working drawings is prepared as per the job requirements.   3. Timber roof material preparation tools and equipment are handled as per the manufacturers' specifications   4. Timber roof materials’ cutting list is prepared as per working drawings.   5. Timber roof material cutting plan is prepared as per the cutting list   6. Timber roof materials are selected as per the cutting plan/ job requirement   7. Timber roof materials are cut and planed to size as per the per the cutting plan.   8. Housekeeping practices are carried out as per workplace procedures |
| 1. Assemble truss members | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Timber roof assembling tools and equipment are handled as per the manufacturers' specifications   3. ***Types of trusses*** are identified as per the working drawing   4. Setting out of ***truss members*** is carried out as per the working drawings.   5. Marking is carried out according to the working drawing   6. ***Types of Joints*** are cut out as per working drawing   7. Plumb cuts on rafters are made as per the working drawing   8. Heads of the two rafters are joined as per the working drawings   9. Rafters are joined to the tie beam based on the working drawings   10. Truss members are joined to the tie beam and rafters as per the working drawings   11. Housekeeping practices are carried out as per workplace procedures |
| 1. Erect roof trusses | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Timber truss erecting tools and equipment are handled as per the manufacturers' specifications   3. Wall plates are fixed on the perimeter wall as per the working drawings   4. Trusses are placed on the wall plate based on the working drawings   5. The first and the last truss are plumbed and levelled on the wall and fixed to the wall plate based on the working drawings   6. The intermediate trusses are plumbed and levelled to the first and last truss and fixed to the wall plate as per the working drawing   7. Housekeeping practices are carried out as per workplace procedures |
| 1. Fix timber roof members | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Timber roof fixing tools and equipment are handled as per the manufacturers' specifications   3. Roof member length is determined as per the architectural drawings   4. ***Roof members*** are connected using timber joints as per the structural design   5. Roof members are fixed as per the design specifications   6. Roof members are trimmed as per the working drawings   7. Housekeeping practices are carried out as per workplace procedures |
| 1. Fix roof cover | 1. Personal protective equipment (PPE) is donned as per job requirements 2. Roof cover fixing tools and equipment are handled as per the manufacturers' specifications 3. ***Roof covering materials*** are assembled according to the job requirements 4. Roof cover setting out is performed as per the job requirements 5. Roof covering materials are fixed as per the working drawings 6. Housekeeping practices are carried out as per workplace procedures |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Types of trusses   may include but not limited to: | * King post * Queen post * Pratt * Howe * Warren * Scissor * Fan * Bowstring |
| 1. Truss members may include but is not limited to: | * Rafters * Braces * Struts * Ties * Ridge board * Cleats |
| 1. Timber joints may include but not limited to: | * Splice joint * Halving joint * Lap joint * Scarf joint * Splayed joint * Bolted joint |
| 1. Roof members may include but is not limited to: | * King post * Purlins * Wall plate * Rafters * Ridge plate * Hip rafter * Valley rafter * Battens * Reapers * Runners |
| 1. Roof covering materials may include but is not limited to: | * Thatch covering * Wood shingles * Tiles * Asbestos cement sheets * Galvanized corrugated Iron sheets |

**REQUIRED KNOWLEDGE**

* Construction Material
* Joinery Tools and Equipment
* Temporary works
* Site Management
* Safety rules and precautions
* Roof covering materials
* Roof members
* Truss members
* Types of roofs
* Timber preservation

**SKILLS**

* Communication skills
* Using carpentry and joinery tools and equipment
* Safety

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Prepared working drawings as per the job requirements.   2. Prepared timber roof materials as per the cutting plan.   3. Set out of truss members is as per the working drawings.   4. Carried out setting out of truss members as per the working drawings.   5. Cut out joints as per working drawing   6. Joined truss members to the tie beam and rafters as per the working drawings   7. Fixed wall plates on the perimeter wall as per the working drawings   8. Placed trusses on the wall plate based on the working drawings   9. Plumbed and levelled first and the last truss on the wall and fixed to the wall plate based on the working drawings   10. Connected roof members using timber joints as per the structural design   11. Fixed roof members are fixed as per the design specifications   12. Trimmed roof members as per the working drawings   13. Fixed roof covering materials as per the working drawings |
| 1. Resource Implications | The following resources should be provided:   * 1. Appropriately simulated environment where assessment can take place   2. Access to relevant work environment   3. Resources relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   * 1. Practical   2. Projects   3. Portfolio of evidence   4. Third party reports   5. Written tests |
| 1. Context of Assessment | The competency may be assessed in a workplace or a simulated workplace |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# CONSTRUCT AND INSTALL UPHOLSTERY FURNITURE

**UNIT CODE:** 0732 451 14A

**UNIT DESCRIPTION**

This unit describes the competences required to construct and install upholstery furniture. It involves; interpreting design specifications for upholstery furniture, preparing and assembling upholstery furniture frames, preparing and attaching upholstery padding and cushioning, cutting, sewing, and fitting upholstery coverings, installing and securing upholstery components, finishing and inspecting upholstered furniture.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENTS**  These describe the key outcomes which make up workplace function | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***(Bold terms are elaborated in the Range)*** |
| --- | --- |
| 1. Interpret Design Specifications for Upholstery Furniture | 1. Personal protective equipment (PPE) is donned as per job requirements. 2. Design specifications are reviewed for compliance with client and job requirements. 3. ***Furniture style***, dimensions, and features are interpreted as per drawings and documentation. 4. Upholstery materials and components are identified as per the design brief. 5. Construction and assembly methods are confirmed based on specifications. |
| 1. Prepare and Assemble Upholstery Furniture Frames | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. ***Frame materials*** and components are selected according to job specifications.   3. Frame construction tools and equipment are selected and checked for serviceability as per the job requirement.   4. Frame components are measured, marked, and cut as per working drawings.   5. Frame joints are prepared and assembled as per the construction plans.   6. Frames are checked for squareness, alignment, and structural integrity as per the job requirement.   7. Housekeeping practices are carried out as per workplace procedures. |
| 1. Prepare and Attach Upholstery Padding and Cushioning | 1. Personal protective equipment (PPE) is donned as per job requirements. 2. ***Padding and cushioning materials*** are selected as per design specifications. 3. Tools and equipment for fixing padding are selected and checked as per the job requirement. 4. Padding and cushioning are measured, cut, and shaped as per furniture dimensions. 5. Padding is securely attached to the frame using appropriate methods as per the job requirement. 6. Cushioning layers are built up and shaped according to design contours. 7. Work area is cleaned and maintained according to workplace practices. |
| 1. Cut, Sew, and Fit Upholstery Coverings | 1. Personal protective equipment (PPE) is donned as per job requirements. 2. ***Upholstery fabrics*** are identified and selected as per job specifications. 3. Fabric cutting tools and sewing equipment are selected and checked as per the job requirement. 4. Fabric patterns are measured and marked based on design and shape of furniture. 5. Fabric panels are cut and sewn as per job requirements. 6. Seams, trims, and details are aligned according to design specifications. 7. Upholstery coverings are trial-fitted for accuracy and finish as per job specifications. 8. Housekeeping practices are carried out as per workplace procedures |
| 1. Install and Secure Upholstery Components | * 1. Personal protective equipment (PPE) is donned as per job requirements.   2. Final upholstery coverings are fitted and adjusted for correct placement as per the job specifications.   3. ***Tacking, stapling, or fastening*** tools are used safely and appropriately as per job requirement.   4. Components such as cushions, backrests, and armrests are installed as per job specifications.   5. Attachments and fittings are checked for firmness and alignment as per job requirement.   6. Upholstery is trimmed and finished according to design requirements.   7. Housekeeping practices are carried out as per workplace procedures |
| 1. Finish and Inspect Upholstered Furniture | * 1. Completed furniture is inspected for alignment, finish, and defects as per the job specification.   2. Upholstery surfaces are cleaned and any protective treatments are applied as per job specification.   3. Touch-ups and corrections are carried out to meet quality standards as per the specifications.   4. Workplace documentation is completed and recorded as per requirement.   5. Final housekeeping is performed as per workplace procedures |

**RANGE**

| **Variable** | **Range** |
| --- | --- |
| 1. Furniture style may include but not limited to; | * Modern * Contemporary * Traditional * Mid-Century Modern * Industrial * Rustic |
| 1. Frame materials may include but is not limited to: | * Hardwood * Softwood * Plywood * MDF (Medium Density Fiberboard) * Particle board * Metal * Plastic * Engineered wood * Bamboo * Wrought iron |
| 1. Padding and cushioning materials may include but not limited to: | * Polyurethane foam * Memory foam * Latex foam * Polyester fiberfill * Cotton batting * Wool * Down feathers * Coil springs * Rubberized hair * Dacron * Textile waste |
| 1. Upholstery fabrics may include but is not limited to: | * Cotton * Linen * Velvet * Leather * Faux leather * Polyester * Chenille * Microfiber * Wool * Acrylic |
| 1. Tacking, stapling, or fastening tools may include but is not limited to: | * + Staple gun   + Manual tacker   + Pneumatic stapler   + Upholstery hammer (tack hammer)   + Upholstery tacks   + Nail gun   + Brad nailer   + Hog ring pliers   + Screwdriver   + Rivet gun |

**REQUIRED KNOWLEDGE**

* Types of timber
* Simple arithmetic calculations
* Carpentry and joinery tools and equipment
* Furniture construction
* Architectural drawing/working drawing
* Furniture components
* Safety

**SKILLS**

* Interpret working drawing
* Jointing
* Communication skills
* Design
* Computer literacy
* Power tools operation and use

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Design specifications are reviewed for compliance with client and job requirements.   2. Frame joints are prepared and assembled as per the construction plans.   3. Frames are checked for squareness, alignment, and structural integrity as per the job requirement.   4. Padding is securely attached to the frame using appropriate methods as per the job requirement.   5. Cushioning layers are built up and shaped according to design contours.   6. Fabric panels are cut and sewn as per job requirements.   7. Upholstery coverings are trial-fitted for accuracy and finish as per job specifications.   8. Tacking, stapling, or fastening tools are used safely and appropriately as per job requirement.   9. Attachments and fittings are checked for firmness and alignment as per job requirement.   10. Completed furniture is inspected for alignment, finish, and defects as per the job specification. |
| 1. Resource Implications | The following resources should be provided:   * 1. appropriately simulated environment where assessment can take place   2. Access to relevant work environment   3. Resources relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   * 1. Written tests   2. Practical   3. Projects   4. Portfolio of evidence   5. Third party reports |
| 1. Context of Assessment | The competency may be assessed in a workplace or a simulated workplace |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# CONSTRUCT TIMBER STAIRS

**UNIT CODE:** 0732 451 15A

**UNIT DESCRIPTION**

This unit describes the competences required to construct timber stairs. It entails preparing materials, tools and equipment, cutting out timber joints, fixing staircase members and performing finishing processes.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENTS**  These describe the key outcomes which make up workplace function | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***(Bold terms are elaborated in the Range)*** |
| --- | --- |
| 1. Prepare materials, tools and equipment | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Working drawings is prepared as per the job requirements.   3. Timber stair material ***preparation tools and equipment*** are handled as per the manufacturers' specifications   4. Timber stair materials’ cutting list is prepared as per working drawings.   5. Timber stair material cutting plan is prepared as per the cutting list   6. Timber stair materials are selected as per the cutting plan/ job requirement   7. Timber stairs materials are cut and planed to size as per the cutting plan.   8. Housekeeping practices are carried out as per workplace procedures |
| 1. Cut-out timber joints | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Cutting-out tools and equipment are handled as per the manufacturers' specifications   3. Marking of timber joints is carried out according to the working drawing   4. Cutting out of timber joints is carried out as per the working drawing   5. Housekeeping practices are carried out as per workplace procedures |
| 1. Fix staircase members | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Staircase fixing tools and equipment are handled as per the manufacturers' specifications   3. Setting out of the staircase is carried out as per the working drawings   4. Staircase members are assembled as per the working drawings   5. Staircase members are fixed as per job requirement   6. Housekeeping practices are carried out as per workplace procedures |
| 1. Perform staircase finishes | * 1. Personal protective equipment (PPE) is donned as per job requirements   2. Surface preparation is carried out as per the job requirement   3. Surface coating is carried out as per the job requirement   4. Housekeeping practices are carried out as per workplace procedures |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Preparation tools and equipment may include but is not limited to: | * Planes * Square * Saws * chisel saws * claw hammer * mallet * tape measure * screw driver |
| 1. Type of stair may include but is not limited to: | * Straight flight * Quarter-turn * Half-turn * Geometrical |
| 1. Stair members may include but are not limited to: | * Stringers * Treads * Risers * Newel Posts * Handrails * Balusters * Nosing * Stringer Trims * Landing * Winders |

**REQUIRED KNOWLEDGE**

* Basic calculations
* Selection of materials
* Various types of timber
* Joining materials
* Design
* Types of stairs
* Safety

**SKILLS**

* Interpretation of working drawing
* Handling of tools and equipment
* Measuring, marking & cutting skills

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Prepared working drawings as per the job requirements.   2. Prepared timber stair materials’ cutting list as per the working drawing   3. Carried out marking of timber joints according to the working drawing   4. Carried out cutting out of timber joints is carried out as per the working drawing   5. Performed fixing of staircase members as per the working drawings   6. Performed surface preparation as per job requirement   7. Performed surface coating as per job requirement |
| 1. Resource Implications | The following resources should be provided:   * 1. Appropriately simulated environment where assessment can take place   2. Access to relevant work environment   3. Resources relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   * 1. Practical   2. Projects   3. Portfolio of evidence   4. Third party reports   5. Written tests |
| 1. Context of Assessment | The competency may be assessed in a workplace or a simulated workplace |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# INSTALL CEILING UNIT

**UNIT CODE:** 0732 451 16A

**UNIT DESCRIPTION**

This unit describes the competences required to Install ceiling unit. It entails Setting Out and Installing Ceiling Joists, Installing Ceiling Covering and Applying Ceiling Finishes.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENTS**  These describe the key outcomes which make up workplace function | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***(Bold terms are elaborated in the Range)*** |
| --- | --- |
| 1. Set Out and Install Ceiling Joists | * 1. Drawings and specifications for ceiling joist layout are interpreted correctly as per the working drawings.   2. Ceiling joist positions are marked and aligned using appropriate measuring tools as per the job requirement.   3. Appropriate timber sizes and materials are selected and prepared according to specifications.   4. Ceiling joists are securely fixed to wall plates or roof framing as per layout.   5. Spacing and bracing of ceiling joists are ensured for structural stability as per the job requirement. |
| 1. Install Ceiling Covering | * 1. Suitable ***ceiling materials*** are selected as per the design and environmental conditions.   2. Ceiling panels are measured, cut, and fixed to joists or furring channels as per the job specification.   3. Proper jointing, levelling, and alignment of ceiling panels is ensured as per the job requirement.   4. Necessary openings for lighting, ventilation, and access panels are provided as per the design and specifications.   5. Appropriate ***fixing techniques*** are applied as per the ceiling material and support system. |
| 1. Apply Ceiling Finishes | * 1. Ceiling surface is prepared appropriately for finishing as per the specification.   2. ***Finishes*** such as painting, staining, or decorative textures are applied as per design requirements.   3. Additional ***ceiling features*** are installed accurately and securely as per the design and specifications.   4. Ceiling finishing is inspected to ensure smooth, defect-free results as per the job requirement.   5. Final quality checks are conducted and work area is cleaned as per the workplace procedure. |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Ceiling materials may include but is not limited to: | * Gypsum board * Chipboard * Plywood * MDF (Medium-Density Fiberboard) * Timber planks * PVC panels * Metal tiles * Fiber cement board |
| 1. Fixing Techniques may include but is not limited to: | * Nailing * Screwing * Adhesive bonding * Stapling * Clip-in systems * Hook-on systems |
| 1. Finishes may include but are not limited to: | * Painting * Staining * Decorative texturing * Wallpapering * Veneering * Laminating * Polishing |
| 1. Additional Ceiling Features may include but are not limited to: | * Cornices * Molding * Ceiling medallions * Coffered panels * False beams * Light troughs * Ceiling roses |

**REQUIRED KNOWLEDGE**

* Basic calculations
* Selection of materials
* Various types of timber
* Joining materials
* Design
* Types of stairs
* Safety

**SKILLS**

* Interpretation of working drawing
* Handling of tools and equipment
* Measuring, marking & cutting skills

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

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| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Drawings and specifications for ceiling joist layout are interpreted correctly as per the working drawings.   2. Ceiling joist positions are marked and aligned using appropriate measuring tools as per the job requirement.   3. Ceiling joists are securely fixed to wall plates or roof framing as per layout.   4. Ceiling panels are measured, cut, and fixed to joists or furring channels as per the job specification.   5. Proper jointing, levelling, and alignment of ceiling panels is ensured as per the job requirement.   6. Necessary openings for lighting, ventilation, and access panels are provided as per the design and specifications.   7. Ceiling surface is prepared appropriately for finishing as per the specification.   8. Finishes such as painting, staining, or decorative textures are applied as per design requirements.   9. Additional ceiling features are installed accurately and securely as per the design and specifications. |
| 1. Resource Implications | The following resources should be provided:   * 1. Appropriately simulated environment where assessment can take place   2. Access to relevant work environment   3. Resources relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   * 1. Practical   2. Projects   3. Portfolio of evidence   4. Third party reports   5. Written tests |
| 1. Context of Assessment | The competency may be assessed in a workplace or a simulated workplace |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# CONSTRUCT TIMBER PREFABRICATED BUILDINGS

**UNIT CODE:** 0732 451 17A

**UNIT DESCRIPTION**

This unit describes the competences required to construct timber prefabricated buildings. It entails interpreting drawings, selecting materials, tools, and equipment, setting and constructing timber-framed and prefabricated structures, performing second fixing and applying finishes.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENTS**  These describe the key outcomes which make up workplace function | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***(Bold terms are elaborated in the Range)*** |
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| 1. Interpret Drawings | * 1. Architectural and Structural drawing is interpreted based on building codes.   2. Measurements are converted as required by the architectural drawing.   3. Symbols and notations are identified and interpreted based on International technical drawing standards (ISO 128). |
| 1. Select Materials, Tools, and Equipment | * 1. A cutting list of materials is prepared as per the working drawing.   2. ***Materials, tools, and equipment*** are selected and prepared as per workplace procedures.   3. Sustainable and energy-efficient materials are identified and selected for construction. |
| 1. Set and Construct Timber Prefabricated Structures | * 1. ***Prefabricated structures*** are identified as per the building code.   2. Selected setting out materials, tools, and equipment are prepared according to job requirements.   3. Prefabricated panels are set out and assembled as per the structural drawing.   4. Bracing and reinforcement are installed as per engineer's specifications.   5. Openings for doors and windows are framed according to the design.   6. Proper ventilation and insulation are incorporated to improve energy efficiency.   7. Prefabricated panels are transported and assembled on-site as per owner’s specifications. |
| 1. Perform Second Fixing | * 1. ***Second fixing components*** are installed as per design specifications.   2. Structural reinforcements are installed securely as per the design.   3. Decorative and functional interior components are integrated effectively as per specifications.   4. Final adjustments and alignments are carried out to ensure proper fit and finish as per the job requirement. |
| 1. Apply Finishes | * 1. Timber and prefabricated surfaces are prepared as per the job specifications.   2. Protective coatings are applied according to job specifications.   3. Cladding and insulation materials are installed as per the design.   4. Paint, varnish, or other ***finishes*** are applied to enhance durability and aesthetics as per the specifications. |

**RANGE**

| **Variable** | **Range** |
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| 1. Timber Prefabricated Buildings may include but not limited to: | * Timber Frame Panel Construction (Prefabricated Panels) * Modular Timber Construction * Cross-Laminated Timber (CLT) Construction |
| 1. Materials may include but is not limited to: | * Timber * Bamboo * Engineered wood products * Prefabricated panels * Insulation materials * Cladding * Fasteners * Adhesives |
| 1. Tools and equipment may include but is not limited to: | * Marking tools * Measuring and testing tools * Driving tools * Cutting tools * Planning and shaping tools * Setting out tools |
| 1. Fixtures may include but not limited to: | * Skirting and mouldings * Ironmongery * Noggins * WPC * Wainscoting * Fluted Panels * Dado rail * Picture rail * Cornice * Architrave * Pelmet box |
| 1. Finishes may include but is not limited to: | * Paint * Stain * Varnish * Drywall (Gypsum) * Fire Retardants * Weather-resistant coatings |

**REQUIRED KNOWLEDGE**

* Structural principles of timber-framed and prefabricated buildings.
* Interpretation of architectural and technical drawings.
* Selection and safe handling of construction materials.
* Setting out and assembly techniques.
* Joinery and framing methods.
* Structural bracing and reinforcement.
* Finishing techniques and surface treatments.
* Safety regulations and standards.
* Environmental sustainability and energy efficiency in construction.

**SKILLS**

* Reading and interpreting architectural drawings.
* Measuring and marking materials accurately.
* Cutting, shaping, and assembling timber components.
* Handling and assembling prefabricated panels.
* Applying bracing and reinforcement techniques.
* Applying surface finishes to improve durability.
* Conducting quality checks on completed structures.
* Ensuring compliance with safety and building regulations.

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

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| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Interpreted and applied structural drawings accurately.   2. Selected appropriate materials, tools, and equipment in line with job specifications.   3. Set out and constructed prefabricated structures according to industry standards.   4. Ensured proper installation of bracing and reinforcement for structural stability.   5. Applied appropriate finishes to protect and enhance the durability of structures.   6. Performed second fixing tasks, including the installation of skirting by ensuring proper alignment and aesthetics. |
| 1. Resource Implications | The following resources should be provided:   * 1. Appropriately simulated environment where assessment can take place   2. Access to relevant work environment   3. Resources relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   * 1. Written tests   2. Practical   3. Projects   4. Portfolio of evidence   5. Third party reports |
| 1. Context of Assessment | The competency may be assessed in a workplace or a simulated workplace |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |