

- Gloves
- Dust coats

## **ROOF STRUCTURES**

**UNIT CODE: CON/CU/CAJ/CR/04/4/A**

### **Relationship to Occupational Standards**

This unit addresses the unit of competency: construct and erect roof structures

**Duration of Unit:** 90 hours

### **Unit Description**

This unit describes the competence in constructing and erecting roof structures. It involves interpreting architectural drawings, setting out roof trusses, cutting out the joints, assembling of truss members and erecting roof trusses. It also includes performing fixing of purlins, performing trimming of roof members, fixing roof covering materials, performing finishing at the eaves and other finishing processes

### **Summary of Learning Outcomes**

1. Interpret architectural drawings
2. Set out roof trusses
3. Cut out the joints
4. Assemble of truss members
5. Erect roof trusses
6. Perform fixing of purlins
7. Perform trimming of roof members
8. Fix roof covering material
9. Perform finishing at the eaves
10. Perform finishing processes

### Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Interpret Architectural drawings	<ul style="list-style-type: none"> <li>• Elevations</li> <li>• Sections</li> <li>• Scales</li> <li>• Dimensions</li> <li>• Symbols</li> <li>• Sketching and labelling types of roof</li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Oral</li> <li>• Practical tests</li> </ul>
2. Set out roof trusses	<ul style="list-style-type: none"> <li>• Types of roofs               <ul style="list-style-type: none"> <li>✓ Single</li> <li>✓ Double</li> <li>✓ Triple</li> <li>✓ Trussed</li> </ul> </li> <li>• Procedure of setting out</li> <li>• Types of roof trusses</li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Oral</li> <li>• Practical tests</li> </ul>
3. Cut out the joints	<ul style="list-style-type: none"> <li>• Plumb cut</li> <li>• Seat cut</li> <li>• ½ lapped halved dovetail</li> <li>• Scarf joints</li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Oral</li> <li>• Practical tests</li> </ul>
4. Assemble of truss members	<ul style="list-style-type: none"> <li>• Types of truss members               <ul style="list-style-type: none"> <li>✓ Rafters</li> <li>✓ King post</li> <li>✓ Braces</li> <li>✓ Ties</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Oral</li> <li>• Practical tests</li> </ul>
5. Erect roof trusses	<ul style="list-style-type: none"> <li>• Plumb the trusses</li> <li>• Fixing truss on purlin</li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Oral</li> <li>• Practical tests</li> </ul>

6. Perform fixing of purlins	<ul style="list-style-type: none"> <li>• Fixing tools <ul style="list-style-type: none"> <li>✓ Plumb-bob</li> <li>✓ Hammer</li> <li>✓ Saws</li> <li>✓ Tape measure</li> <li>✓ Try square</li> </ul> </li> <li>• Fixing procedures <ul style="list-style-type: none"> <li>✓ Cut joints</li> <li>✓ Align the purlins to the truss</li> <li>✓ Fix the purlins</li> <li>✓ Remove temporary support</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Oral</li> <li>• Practical tests</li> </ul>
7. Perform trimming of roof members	<ul style="list-style-type: none"> <li>• Procedure of trimming roof members <ul style="list-style-type: none"> <li>✓ Trim the purlins</li> <li>✓ Trim the rafters</li> </ul> </li> <li>• Trimming tools and equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Oral</li> <li>• Practical tests</li> </ul>
8. Fix roof covering material	<ul style="list-style-type: none"> <li>• Types of roof covering materials <ul style="list-style-type: none"> <li>✓ Corrugated sheets</li> <li>✓ Asbestos sheets</li> <li>✓ Tiles</li> <li>✓ Shingles</li> </ul> </li> <li>• Estimation of materials</li> <li>• Fixing procedure</li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Oral</li> <li>• Practical tests</li> </ul>
9. Perform finishing at the eaves	<ul style="list-style-type: none"> <li>• Definition of eaves</li> <li>• Types of eaves</li> <li>• Measuring sizes of the eaves</li> <li>• Marking plumb cuts</li> <li>• Cutting eaves plumb as marked</li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Oral</li> <li>• Practical tests</li> </ul>
10. Perform finishing processes	<ul style="list-style-type: none"> <li>• Finishing procedures <ul style="list-style-type: none"> <li>✓ Cut bevells of roof members</li> <li>✓ Fix the fascial board</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Oral</li> </ul>

	✓ Fix the soffits board Fix the gutter and down pipes	<ul style="list-style-type: none"> <li>• Practical tests</li> </ul>
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### **Suggested Methods of Instruction**

- Demonstration by trainer
- Practical work by trainee
- Demonstration videos
- Group discussions

### **Recommended Resources**

- Carpentry tools
- Reference materials
- Occupational Safety and health manuals
- Nails
- Nuts and bolts
- Timber
- Screws
- Gum boots
- Gloves
- Dust coats
- First aid kit
- Ear muffs
- Dust mask

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