

11.1.0 CARPENTRY WORKS

11.1.1 Introduction

This module unit is designed to equip the trainee with knowledge, skills and attitudes to enable him/her select and apply materials used in site carpentry and related construction works.

11.1.2 General Objectives

By the end of the module unit the trainee should be able to:

- a) Apply appropriate finishes to the building fabric
- b) Select and use tools and equipment for carpentry
- c) Operate woodworking machines
- d) Construct timber frames and temporary structures for use in site works
- e) Observe health and safety regulations in work place
- f) Design and construct joinery components using appropriate jointing techniques

11.1.3 Module Unit Summary and Time Allocation

Carpentry and Joinery Works

Code	Sub-Module Unit	Content	Time (Hours)		
			Theory	Practice	Total
11.1.01	Safety	<ul style="list-style-type: none">• Definition• General safety• Site and workshop safety• Procedures for first aid• Fire prevention• Regulations	2	0	2
11.1.02	Wood working tools, equipment and machines	<ul style="list-style-type: none">• Hand tools• Workshop equipment• Portable power tools• Wood working machines	2	2	4
11.1.03	Joints and Material Preparation	<ul style="list-style-type: none">• Classification• Uses• Material preparation	2	4	6

Code	Sub-Module Unit	Content	Time (Hours)		
			Theory	Practice	Total
		<ul style="list-style-type: none"> Strengthening joints Quality control Material estimation and job costing 			
11.1.04	Foundations	<ul style="list-style-type: none"> Foundations systems Foundations for suspended timber structure Methods of anchoring Methods of construction of suspended floors 	2	4	6
11.1.05	Timber frame construction	<ul style="list-style-type: none"> Definition Methods of construction Materials Setting out Fixing devices Treatment and preservation Regulations 	2	4	6
11.1.06	Temporary Structures	<ul style="list-style-type: none"> Definition Forms of Temporary structures Material for construction of temporary structures Safety requirements By-law and requirements Costing 	2	2	4
11.1.07	Roof Construction	<ul style="list-style-type: none"> Definition Terminologies Classification of roofs Roof layouts Roofing materials 	2	4	6

Code	Sub-Module Unit	Content	Time (Hours)		
			Theory	Practice	Total
		<ul style="list-style-type: none"> • By-law requirements 			
11.1.08	External Works	<ul style="list-style-type: none"> • Definition • Types of gates and fences • Materials • Preservation • Methods of application • Criteria for selection of gates and fences • Costing 	2	2	4
11.1.09	Rain Water Goods	<ul style="list-style-type: none"> • Definition • Types of rain water goods • Materials • Construction methods 	2	4	6
11.1.10	Finishes	<ul style="list-style-type: none"> • Timber floor finishes • Application of floor finishes • Wall finishes • Ceiling finishes • Safety in preservatives application • Precision and quality control 	2	8	10
11.1.11	Portable Power Tools	<ul style="list-style-type: none"> • Types of portable power tools • Description and use • Care and maintenance • Safety measures 	2	4	6

Code	Sub-Module Unit	Content	Time (Hours)		
			Theory	Practice	Total
11.1.12	Machines	<ul style="list-style-type: none"> • Types of machines • Operations of different machines • Maintenance and servicing • Safety precautions 	2	4	6
Total			24	42	66

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11.1.01 SAFETY

11.1.01C Competence

The trainee should have the ability to exhibit safe working habits, apply first aid and distinguish different types of fire

Theory

11.1.01T0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:

- a) define the term safety
- b) explain general safety precautions
- c) list factors that enhance work place
- d) explain procedures of carrying out first aid
- e) distinguish different types of fire
- f) explain statutory regulations that govern workplace safety

Content

11.1.01T1 Definition

11.1.01T2 General safety

- i) personal safety
- ii) materials safety
- iii) tools safety

11.1.01T3 Workplace safety

- i) first aid kit

- ii) emergency switches
- iii) Occupational Safety And Health Act

iv) fire extinguishers

11.1.01T4 Procedures of first aid

- i) burns
- ii) cuts
- iii) fractures
- iv) resuscitation
- v) HIV/AIDS prevention

11.1.01T5 Fire prevention

- i) classes of fire
- ii) fire extinguishers
- iii) fire prevention

11.1.01T6 Regulations

- i) Occupational Safety And Health Act
- ii) Environmental Act
- iii) Public Health and Sanitation Act

Practice

11.1.01T0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:

- a) handle tools safely
- b) dress safely
- c) use a fire-extinguisher
- d) demonstrate techniques of carrying out first aid

Content

11.1.01T1 Tools safety

- i) workshop tools safety
- ii) site tools safety

- 11.1.01T2 Personal safety
 - i) dressing code
- 11.1.01T3 Fire prevention
 - i) types of fire extinguishers
- 11.1.01T4 First Aid
 - i) cuts
 - ii) bruises
 - iii) burns
 - iv) fractures

Suggested Teaching/Learning Activities

- Discussion
- Demonstration of first aid procedures
- Fire drill
- Practical exercise

Suggested Teaching/Learning Resources

- Fire extinguishers
- First aid kits
- Different types of fires
- Textbooks
- Safety charts

Suggested Assessment Methods

- Observation
- Oral tests
- Written tests
- Practice
- Projects

11.1.02 WOOD WORKING TOOLS, EQUIPMENT AND MACHINES

11.1.02C Competence
 The trainee should have the ability to safely handle hand tools and operate wood working machines, portable power tools and equipment

Theory

11.1.02T0 *Specific Objectives*
 By the end of the sub-module unit, the trainee should be able to:

- a) explain uses of various hand tools
- b) list wood working workshop equipment
- c) describe portable wood working power tools
- d) describe wood working Machines

Content

- 11.1.02T1 Hand tools
 - i) types
 - ii) uses
- 11.1.02T2 Workshop equipment
 - iii) benches
 - iv) trestles
 - v) vices
 - vi) bench hook
 - vii) sawing board
 - viii) storage facilities

- 11.1.02T3 Portable power tools
- i) identification of portable power tools
 - ii) use
 - iii) maintenance
 - iv) safety
 - v) Occupational Safety and Health Act (OSHA)
 - vi) IEEE Regulations
- 11.1.02T4 Wood working Machines
- i) types
 - ii) use
 - iii) maintenance
 - iv) safety requirements
 - v) business opportunities
 - vi) service provision

Practice

- 11.1.02P0 *Specific Objectives*
- By the end of the sub-module unit, the trainee should be able to:
- a) identify hand tools
 - b) use woodworking equipment
 - c) handle portable woodworking power tools
 - d) operate woodworking machines

Content

- 11.1.02P1 Hand tools
- i) Identification
 - ii) use
 - iii) maintenance

- 11.1.02P2 Workshop equipment
- i) types
 - ii) use
 - iii) maintenance
 - iv) safety

- 11.1.02P3 Portable power tools
- i) identification of power tools
 - ii) operation
 - iii) safety
 - IEEE Regulations
 - iv) Maintenance
 - v) OSHA

- 11.1.02P4 Wood working machines
- i) types
 - ii) operation
 - iii) maintenance
 - vi) safety requirements
 - iv) business opportunities
 - v) services provision

Suggested Teaching/Learning Resources

- Hand tools
- Machines
- Equipment
- Manuals
- Charts
- Text book
- Internet

Suggested Teaching/Learning Activities

- Demonstrations
- Discussion
- Site visits

	<i>Suggested Assessment Methods</i>		f) estimate and cost for materials used in joint construction
	- Written tests		
	- Oral tests		
	- Assignment		
	- Exercises		
11.1.03	JOINTS AND MATERIAL PREPARATION		<i>Content</i>
		11.1.03T1	Classification i) lengthening ii) widening iii) framing
11.1.03C	Competence The trainee should have the ability to select and use appropriate tools and equipment to construct joints in carpentry and joinery works	11.1.03T2	Joints used in: i) walls ii) roofs iii) floors iv) stairs v) temporary works vi) gates and fences
	Theory	11.1.03T3	Material Preparation i) selection ii) measuring iii) cutting iv) planing
11.1.03T0	<i>Specific Objectives</i> By the end of the sub-module unit, the trainee should be able to:	11.1.03T4	Strengthening joints i) bolting ii) screwing iii) gang nailing iv) plates
	a) classify various joints used in woodwork	11.1.03T5	Quality control i) firmness ii) rigidity iii) workmanship
	b) state areas where joints are used in carpentry	11.1.03T6	Material estimation and job costing
	c) explain the procedure of preparing materials for making joints		Practice
	d) explain methods of strengthening joints	11.1.03P0	<i>Specific Objectives</i> By the end of the sub-module unit, the trainee should be able to:
	e) maintain quality in joint construction		a) identify joints to be used on an item

- b) select materials for a joint
- c) construct a given joint
- d) identify business opportunity in material preparation

- Sketching
- Practice
- Market survey

Suggested Assessment Methods

- Oral tests
- Practice
- Projects
- Written tests

Content

- 11.1.03P1 Identification of joints
 - i) types of joints
- 11.1.03P2 Material selection
 - i) soft wood
 - ii) hard wood
 - iii) grain structure
- 11.1.03P3 Construction of joints
 - i) lengthening
 - ii) widening
 - iii) framing
- 11.1.03P4 Business opportunity in material preparation
 - i) planning
 - ii) cutting
 - iii) turning
 - iv) rebating

11.1.04 FOUNDATIONS

11.1.04C Competence

The trainee should have the ability to construct a suspended timber structure

Theory

11.1.04T0 *Specific Objectives*

By the end of the sub-module unit, the trainee should be able to:

- a) describe various foundations systems
- b) illustrate foundations for suspended timber structure
- c) outline methods of anchoring
- d) explain methods of construction of suspended floors

Suggested Teaching/Learning Resources

- Timber
- Textbooks
- Charts
- Working drawings
- Tools
- Equipment
- Machines

Suggested Teaching/Learning Activities

- Demonstration
- Discussion

Content

- 11.1.04T1 Foundation systems

- 11.1.04T2 Foundations of suspended timber structure
- 11.1.04T3 Methods of anchoring
- 11.1.04T4 Methods of construction of suspended floors
- Practical exercise
 - Site visits
- Suggested Assessment Methods*
- Oral tests
 - Practical exercises
 - Written tests
 - Projects

Practice

- 11.1.04P0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:
- a) identify various foundation systems
 - b) construct suspended floors

Content

- 11.1.04P1 Identification of foundation systems
- i) raft
 - ii) basements
 - iii) strip
 - iv) pad

- 11.1.04P2 Construction of suspended floors

Suggested Teaching/Learning Resources

- Tools
- Realia
- Textbooks

Suggested Teaching / Learning Activities

- Discussion
- Demonstration
- Sketching

11.1.05 TIMBER FRAME CONSTRUCTION

- 11.1.05C Competence**
The trainee should have the ability to select suitable material, set out and construct timber framework

Theory

- 11.1.05T0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:
- a) define the terms involved in timber frame construction
 - b) explain methods of timber frame construction
 - c) identify various types of materials used in timber frame construction
 - d) outline the procedure of setting out
 - e) identify types of fixing devices

- f) explain various methods of treatment and preservation
- g) explain regulations that affect timber frame construction

Content

- 11.1.05T1 Definition of terms
- 11.1.05T2 Methods of construction
 - i) platform
 - ii) balloon
- 11.1.05T3 Materials
 - i) timber
 - ii) metal
- 11.1.05T4 Setting out timber framed buildings
 - i) layout
 - ii) plumbness
- 11.1.05T5 Fixing devices
 - i) screws
 - ii) bolts
 - iii) gang nail plates
 - iv) connectors
- 11.1.05T6 Treatment and preservation
 - i) termite control
 - ii) types of preservatives
 - iii) methods of application
- 11.1.05T7 Regulations
 - i) Building Code
 - ii) Environment Act
 - iii) Occupational Safety and Health Act
 - iv) Public Health and Sanitation Act

Practice

11.1.05P0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:

- a) Identify materials used for a given timber framed construction
- b) select suitable tools and materials used for a given timber
- c) demonstrate setting out procedures of a timber framed building
- d) construct a given timber frame building

Content

- 11.1.05P1 Materials
 - i) timber
 - ii) metal
- 11.1.05P2 Tools and materials for timber frame construction
- 11.1.05P3 Setting out
- 11.1.05P4 Timber frame construction
 - i) floor
 - ii) walls
 - iii) roof

Suggested Teaching/Learning Resources

- Tools
- Samples of materials
- Realia
- Building line
- Textbooks
- Model

Suggested Teaching/Learning Activities

- Discussion
- Demonstration
- Sketching
- Practical exercise
- Site visits

Suggested Assessment Methods

- Oral tests
- Practical exercise
- Written tests
- Projects

11.1.06 TEMPORARY STRUCTURES

11.1.06C Competence

The trainee should have the ability to construct different types of form work for precast and insitu units, fixing timbering to trenches and erect hoardings to specification

Theory

- 11.1.06T0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:
- define terms related to temporary structures
 - list the different types of temporary structures
 - state the materials used in temporary structures
 - state the safety rules to be observed when working on temporary structures
 - state the by-laws that apply to temporary structures
 - calculate the cost of constructing temporary structures

Content

- 11.1.06T1 Definition
11.1.06T2 Temporary structures
- formwork
 - hoarding
 - timbering to trenches
 - mould boxes
- 11.1.06T3 Material for temporary structures
- timber
 - plastics

- iii) metal
- iv) manufactured boards
- 11.1.06T4 Safety
- 11.1.06T5 By - laws requirements
 - i) Public Health and Sanitation Act
 - ii) Occupation Safety and Health Act
 - iii) NEMA
 - iv) building code
 - v) approvals
 - vi) zoning
- 11.1.06T6 Costing
 - i) material
 - ii) labour
 - iii) overheads

Practice

- 11.1.06P0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:
 - a) state the safety rules to be observed when erecting temporary structures
 - b) choose materials for temporary structures
 - c) sketch different items of temporary structure
 - d) construct different temporary structure models

Content

- 11.1.06P1 Safety rules

- 11.1.06P2 Material preparation
 - i) types of materials
 - ii) jointing
 - iii) fastening
- 11.1.06P3 Types of temporary structures
 - i) formwork
 - ii) hoarding
 - iii) scaffolding
- 11.1.06P4 Temporary structure models

Suggested Teaching/Learning Resources

- Tools
- Working drawings
- Model
- Textbooks
- Charts

Suggested Teaching/Learning Activities

- Discussion
- Demonstration
- Sketching
- Practical exercise
- Site visits
- Construction

Suggested Assessment Methods

- Oral tests
- Written tests
- Assignments
- Practical exercise

11.1.07 ROOF CONSTRUCTION

11.1.07C Competence

The trainee should have the ability to:

- i) Identify different types of roofs
- ii) Select appropriate materials for a given roof
- iii) Set out a given roof

- iv) roofing tiles
- v) selection of covering material

11.1.07T6 By-law requirements

Practice

Theory

- 11.1.07T0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:
- a) describe the term 'roof'
 - b) explain the technical terms related to roofs
 - c) distinguish different types of roofs
 - d) sketch layout of roof members
 - e) select appropriate roof covering materials
 - f) explain the by-law requirements for roofs

Content

- 11.1.07T1 Definition
- 11.1.07T2 Terminologies
- 11.1.07T3 Classification
 - i) flat
 - ii) pitched
- 11.1.07T4 Roof members layout
- 11.1.07T5 Roofing covering materials
 - i) galvanised iron sheets
 - ii) timber
 - iii) steel

11.1.07P0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:

- a) identify various types of roofs
- b) set out a given roof
- c) construct a model of a given type of roof
- d) select appropriate roof covering materials
- e) place a given roof covering material

Content

- 11.1.07P1 Roof types
- 11.1.07P2 Setting out
- 11.1.07P3 Construction of roof models
- 11.1.07P4 Selection of roof covering materials
- 11.1.07P4 Placing of roof covering materials

Suggested Teaching / Learning Resources

- Roof models
- Tools
- Text books

Suggested Teaching/Learning Activities

- Discussion

- Demonstration
- Models
- Site visits

Suggested Assessment Methods

- Oral tests
- Written tests
- Assignments
- Practical exercise

- f) state the criteria used when selecting materials for making gates and fences
- g) calculate the cost of installing a particular gate

11.1.08 EXTERNAL WORKS

11.1.08C Competence

The trainee should have the ability to:

- i) Construct fences
- ii) Construct gates

Theory

11.1.08T0 *Specific Objectives*

By the end of the sub-module unit, the trainee should be able to:

- a) define external works
- b) identify different types of gates and fences
- c) outline suitable materials used for the construction of gates and fences
- d) describe methods used in preservation of gates and fences
- e) explain the methods used when applying preservation to gates and fences

Content

- 11.1.08T1 Definition
- 11.1.08T2 Types of gates and fences
 - i) gates
 - ii) fences
- 11.1.08T3 Materials
 - i) wood
 - ii) metal
 - iii) plastics
 - iv) concrete
 - v) live plants
- 11.1.08T4 Preservation
 - i) types
- 11.1.08T5 Methods of application
- 11.1.08T6 Selection criteria for gates and fences
 - i) use of the gate
 - ii) type of fence
 - iii) durability
- 11.1.08T7 Costing
 - i) Materials
 - ii) Labour
 - iii) Overheads
 - iv) Profit

Practice

- 11.1.08P0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:

- a) produce different designs of gates or fences
- b) select suitable materials for making a given model or a gate or fence
- c) make a given model of a gate
- d) apply suitable preservative finish to the model gate

- Written tests
- Practical assignments
- Phased test

11.1.09 RAIN WATER GOODS

11.1.09C Competence

The trainee should have the ability to fabricate and instal rain water goods

Theory

- Content*
- 11.1.08P1 Design gates and fences
 - 11.1.08P2 Material selection
 - 11.1.08P3 Construction of gates and fences
 - 11.1.08P4 Application of preservatives

- 11.1.09T0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:

- a) define the term 'rain water goods'
- b) list the types of rain water goods
- c) list types of materials used in making rain water goods
- d) outline the procedure of fabricating rain water goods

Suggested Teaching/Learning Resources

- Textbooks
- Manuals
- Sites visits
- Models
- Tool and equipment
- Internet

Suggested Teaching/Learning Activities

- Demonstration
- Practice
- Discussion

Suggested Assessment Methods

- Oral tests

Content

- 11.1.09T1 Definition
- 11.1.09T2 Types of rain water goods
 - i) gutters
 - ii) down pipes
 - iii) ridge caps
 - iv) gullies

- 11.1.09T3 Materials
 i) galvanised iron sheets
 ii) plastic
- 11.1.09T4 Fabrication methods
 i) soldering
 ii) welting
 iii) soft welding
 iv) riveting

Practice

- 11.1.09P0 *Specific Objectives*
 By the end of the sub-module unit, the trainee should be able to:
- select suitable materials for rain water goods
 - fabricate rainwater goods for a given work
 - install rain water goods

Content

- 11.1.09P1 Material selection
- 11.1.09P2 Rain water goods fabrication
 i) gutters
 ii) down pipes
 iii) boxes
 iv) rain water furniture
- 11.1.09P3 Installation of rainwater goods

Suggested Teaching/Learning Resources

- Textbooks
- Tool and equipment
- Materials

Suggested Teaching/Learning Activities

- Demonstration
- Site visits
- Practice

Suggested Assessment Methods

- Oral tests
- Written tests
- Practical assignments
- Phased test

11.1.10 FINISHES

11.1.10C Competence

The trainee should have the ability to select and apply timber finishes and preservatives

Theory

- 11.1.10T0 *Specific Objectives*
 By the end of the sub-module unit, the trainee should be able to:

- list types of timber floor finishes
- explain how timber floor finishes are applied
- list types of finishes applied to walls
- list types of finishes applied to ceilings
- compare the effectiveness of

- different types of preservatives
- f) explain the safety precautions to be observed when applying preservatives
- g) state factors that influence efficient work organization and adherence to quality control

- i) fumes
- ii) corrosion
- 11.1.01T7 Precision and quality control
 - i) efficient work organisation
 - ii) use of quality materials
 - iii) adherence to standard procedure

Practice

- Content*
- 11.1.10T1 Timber floor finishes
 - i) wood blocks
 - ii) parquet blocks
 - iii) floor boards
 - iv) linoleum
 - 11.1.10T2 Application of timber floor finishes
 - i) bitumen
 - ii) wood glue
 - iii) felt
 - 11.1.10T3 Wall finishes
 - i) varnish
 - ii) paint
 - iii) boarding
 - iv) panelling
 - 11.1.10T4 Ceiling finishes
 - i) manufactured boards
 - ii) styro foam
 - iii) tongue and groove boards
 - iv) gypsum boards
 - 11.1.10T5 Effectiveness of preservation
 - i) oil based
 - ii) water based
 - 11.1.10T6 Safety in preservatives application

- 11.1.10P0 *Specific Objectives*
By the end of the sub-module unit, the trainee should be able to:
 - a) identify types of timber floor, walls and ceiling finishes
 - b) apply finishes on timber floors, walls and ceiling
 - c) apply preservatives

- Content*
- 11.1.10P1 Timber floor, wall and ceiling finishes
 - 11.1.10P2 Finishes application
 - 11.1.10P3 Application of preservatives

Suggested Teaching/Learning Resources

- Text books
- Sample of finishes
- Manufacturers catalogues
- Site visits

Suggested Teaching/Learning Activities

- Discussion
- Demonstration
- Practice

Suggested Assessment Methods

- Oral tests
- Written tests
- Assignments
- Practical exercises

11.1.11 PORTABLE POWER TOOLS

11.1.11C Competence

The trainee should have the ability to safely operate portable power tools

Theory

11.1.11T0 *Specific Objectives*

By the end of the sub-module unit, the trainee should be able to:

- identify portable power tools
- describe the operation of portable power tools
- explain maintenance requirements for portable power tools

- list down safety precautions to be observed when handling portable power tools

Content

11.1.11T1 Types of portable power tools

- portable power saw
- portable drill
- portable electric plane
- router
- jigsaws
- portable sanders

11.1.11T2 Operation of portable power tools

11.1.11T3 Maintenance requirements for portable power tools

- power connection
- maintenance of cutting edges
- moving parts and bushes
- carbon brush replacement

11.1.11T4 Safety precautions

- handling
- protective wares
- grounding

Practice

11.1.11P0 *Specific Objectives*

By the end of the sub-module unit, the trainee should be able to:

- a) use portable power tools for given tasks
- b) maintain and recondition cutting blades for portable power tools

Content

- 11.1.11P1 Portable power tools operations
- 11.1.11P3 Maintenance and reconditioning

Suggested Teaching/Learning Resources

- Portable power tools
- Illustrations
- Manuals
- Resource persons
- Internet

Suggested Teaching/Learning Activities

- Demonstrations
- Role play

Suggested Assessment Methods

- Students projects
- Power tool usage
- Models

11.1.12 MACHINES

11.1.12C Competence

The trainee should have the ability to operate and carry out minor maintenance for wood working machines

Theory

11.1.12T0 *Specific Objectives*

By the end of the sub module unit, the trainee should be able to:

- a) outline different types of wood working machine
- b) explain the operations of different wood working machines
- c) outline the maintenance and servicing procedure for different wood working machines
- d) outline safety precautions and measures in the operation of machines

Content

11.1.12T1 Types of machines

- i) surface planer
- ii) thicknesser
- iii) radial arm saw
- iv) band saw
- v) spindle moulder
- vi) tenoner/morticer
- vii) disc and belt sanders
- viii) lathe
- ix) rip saw

11.1.12T2 Operations of different machines

- i) planing / thicknessing
- ii) ripping and cross cutting
- iii) shaping

	iv) grooving	
	v) moulding	
	vi) rebating	
	vii) tenoning and mortising	
11.1.12T3	Maintenance and servicing	11.1.12P1 Machines operations
	i) oiling	11.1.12P2 Service and maintenance
	ii) sharpening	11.1.12P3 Safety measures
	iii) setting	
11.1.12T4	Safety precautions	
	i) accessories	
	ii) workshop etiquette	
	Practice	
11.1.12P0	<i>Specific Objectives</i>	
	By the end of the sub-module unit, the trainee should be able to:	
	a) use machines for a given operation safely	
	b) service and maintain machines	
	c) adopt safety measures when operating machines	
		<i>Content</i>
		<i>Suggested Teaching/Learning Resources</i>
		- Woodworking machines
		- Tools
		- Service kits
		<i>Suggested Teaching/Learning Activities</i>
		- Interactive lecture
		- Demonstration
		<i>Suggested Assessment Method</i>
		- Various tasks carried out on machines
		- Oral tests
		- Written tests