

COURSE DESIGN

COURSE TITLE	:	FURNITURE MAKING (Finishing)
NOMINAL DURATION	:	1200 hrs.
QUALIFICATION LEVEL	:	NC II
COURSE DESCRIPTION	:	This course is designed to provide the knowledge, skills, and positive attitudes of the students/ learners to gather, interpret, and convey information in response to workplace requirement; to identify one's role and responsibility as a member of a team; to promote career growth and advancement; to comply with regulatory and organizational requirements for occupational health and safety practices, and to apply quality standards. It also covers competencies such as performing basic preventive maintenance on spray equipment and booth, preparing surface for final coat, and applying surface coating using spray gun system.

COURSE STRUCTURE

Year Level	SECOND YEAR			
GRADING PERIOD	Unit of Competency	Module Title	Learning Outcome	No. of Hours
COMMON				
FIRST	1. Perform Mensurations and Calculations	1.1. Performing Mensurations and Calculations	LO 1. Select measuring instruments	10
			LO 2. Carry out measurements and calculations	20
			LO 3. Maintain measuring instruments	10
	2. Interpret Technical Drawings and Plans	2.1. Interpreting Technical Drawings and Plans	LO 1. Analyze signs, symbols, and data	20
			LO 2. Interpret technical drawings and plans	20
			LO 3. Apply freehand sketching	20
	Total			
SECOND	1. Observe Procedures, Specifications and Manuals of Instruction	1.1. Observing Procedures, Specifications and Manuals of Instruction	LO 1. Identify, access, and interpret specification and manuals	20
			LO 2. Apply information in manual	20
			LO 3. Store manuals	20
	2. Occupational Health and Safety (OHS) Practices and 5S in the Workplace	2.1. Occupational Health and Safety (OHS) Practices and 5S in the Workplace	LO 1. Follow safe workplace procedures for hazard identification and risk control	20
			LO 2. Employ safe working practices	10
			LO 3. Respond to accidents	10
	Total			
THIRD	1. Maintain Tools and Equipment	1.1 Maintaining Tools and Equipment	LO 1. Check condition of tools and equipment	40
			LO 2. Perform basic preventive	40

Strengthened Technical-Vocational Education Program

			maintenance	
			LO 3. Store tools and equipment	20
			Total	100
FOURTH	1. Use Hand Tools	1.1. Using Hand Tools	LO 1. Prepare hand tools	20
			LO 2. Utilize hand tools	60
			LO 3. Store hand tools	20
				Total
Year Level	THIRD YEAR			
GRADING PERIOD	Unit of Competency	Module Title	Learning Outcome	No. of Hours
FIRST	1. Operate Cutting Machine	1.1. Operating Cutting Machine	LO 1. Determine job requirements	20
			LO 2. Prepare materials and tools	20
			LO 3. Set up machine	20
			LO 4. Cut substrate stock	20
			LO 5. Perform 5S in the workplace	20
			Total	100
SECOND	1. Operate surface/planer machine	1.2. Operating surface/planer machine	LO 1. Determine job requirements	20
			LO 2. Prepare materials and tools	20
			LO 3. Set up machine	20
			LO 4. Perform surfacing	20
			LO 5. Perform workplace organization	20
			Total	100
THIRD	1. Operate Sanding Machines	1.1. Operating Sanding Machine	LO 1. Determine job requirements	20
			LO 2. Prepare materials and consumables	20
			LO 3. Set up machines	20
			LO 4. Perform sanding operation	20
			LO 5. Perform workplace organization	20
			Total	100

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FOURTH	1. Perform Basic Preventive Maintenance for Machine and Tools	1.1. Performing Basic Preventive Maintenance for Machine and Tools	LO 1. Inspect and identify defects of machines and power tools	40
			LO 2. Perform basic machine preventive maintenance servicing of machines	40
			LO 3. Prepare preventive maintenance report	20
	Total			100
Year Level	FOURTH YEAR			
GRADING PERIOD	Unit of Competency	Module Title	Learning Outcome	No. of Hours
FIRST	1. Apply Quality Standards	1.1. Applying Quality Standards	LO 1. Assess quality of received materials or components	30
			LO 2. Assess own work	30
			LO 3. Engage in quality improvement	40
	Total			100
SECOND	1. Prepare Surface for Final Coating	1.1. Preparing Surface for Final Coating	LO 1. Prepare materials, tools, and equipment	40
			LO 2. Prepare surface for finishing	40
			LO 3. Perform good housekeeping	20
	Total			100
THIRD	1. Apply Surface Coating Using Spray Gun System	1.1. Applying Final Coating Using Spray Gun System	LO 1. Prepare materials, tools and equipment	40
			LO 2. Apply surface coating	40
			LO 3. Perform good housekeeping	20
	Total			100
FOURTH	1. Perform Basic Preventive Maintenance on Spray Equipment and Booth	1.1. Performing Basic Preventive Maintenance on Spray Equipment and Booth	LO 1. Identify coating tools and equipment defects	40
			LO 2. Perform basic preventive maintenance servicing	40

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			LO 3. Prepare maintenance report	20
			Total	100

RESOURCES:

TOOLS	EQUIPMENT	MATERIALS
Measuring Tools	Circular Saw	Wood-rattan
Driving Tools	Band Saw	Plywood-Bamboo
Boring Tools	Radial Saw	Nails
Lining Tools	Sanding Machine	Hinges
Edge cutting tools	Jointer Plane	Glue
Tooth cutting tools	Thickness Planner	Screw
Testing tools	Dust Collector	Bolts
Holding Tools	Sharpener Machine	Paints
Viscosity cup	Working Tables	Pencil
Wet and/or dry thermometer	Working bench	Oil or Fluid
Spray Gun Wrenches	Dust Mask	Sand paper
Cleaning brushes	Tool Panel	Rugby
Pallet knife	Air Compressor	Finishing Materials
Sanding block	Drill Press	Miscellaneous Materials
Brushes	Wood Lathe Machine	Hardware's
	Scroll Saw	Thinner
	Spray Booth (dry type)	Color Stains
	Regulator and Filter	Sealers
	Trolley	Varnish
	Racks	Sample Coating Board
	Portable Sander	Sandpaper
	Working Table	Putty
	Dust Collector	Paint Remover
	Personal Protective Equipment (PPE)	Filler
		Glaze
		Rugs
		Steel Wool

METHODOLOGIES:

- Modular (self-paced learning)
- Electronic learning
- Industry immersion
- Demonstration
- Film viewing
- Simulation

ASSESSMENT METHODS:

- Observation
- Demonstration and interview
- Practical skills
- Written test
- Interview

TRAINER'S QUALIFICATIONS:

- Must be a holder of NC II
- Must have undergone training on Training Methodology I (TM-I)
- Of good moral character
- Must be computer literate
- Must be physically and mentally fit
- * Must have 1 year industry experience and/or teaching experience

* *Optional, only when required by the hiring institution*

MODULES OF INSTRUCTION

SECOND YEAR

UNIT OF COMPETENCY	:	PERFORM MENSURATIONS AND CALCULATIONS
MODULE TITLE	:	PERFORMING MENSURATIONS AND CALCULATIONS
NOMINAL DURATION	:	40 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and desirable attitudes in identifying and measuring objects based on the required performance standards.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. select measuring instruments.
- LO 2. carry out measurements and calculations.
- LO 3. maintain measuring instruments.

LO 1. Select Measuring Instruments

ASSESSMENT CRITERIA:

1. Object or components to be measured are identified, classified, and interpreted according to the appropriate regular geometric shape.
2. Measuring tools are selected as per object to be measured according to job requirements.
3. Measuring instruments are selected according to job requirements.
4. Alternative measuring tools are used without sacrificing cost and quality of work.

CONTENTS:

- Visualizing Objects and Shapes Specifically the Geometric Shapes
- Interpreting Formulas for Volume, Area, Perimeter of Plane, and Geometric Figures
- Measuring instruments/Measuring tools
- Proper handling of measuring instruments

CONDITIONS:

The following resources are needed:

- Classroom for discussion
- Problems to be solved
- Measuring instruments
- Instructional materials relevant to the proposed activity

METHODOLOGIES:

- Demonstration
- Discussion

ASSESSMENT METHODS:

- Demonstration
- Direct observation
- Written test
- Oral test

LO 2. Carry Out Measurements and Calculations

ASSESSMENT CRITERIA:

1. Calculations needed to complete work tasks are performed using the four basic processes of addition, subtraction, multiplication and division including, but not limited to trigonometric, functional, algebraic computations.
2. Calculations involving fractions, percentages, and mixed numbers are used to complete workplace tasks.
3. Numerical computations is self-checked and corrected for accuracy.
4. Accurate measurements are obtained according to job requirements.
5. Systems of measurement are identified and converted according to job requirements.
6. Work pieces are measured according to job requirements.

CONTENTS:

- Trade mathematics/mensuration
- Four fundamental operations
- Systems of measurements
- Dimensions
- Ratio and proportion
- Trigonometric functions
- Algebraic equations
- Fractions, percentage, and decimals
- Conversion

CONDITIONS:

The following resources are needed:

- Problems to be solved
- Measuring tools and instruments
- Work piece (wood)
- Mock-up of enlarged graduation of measurement

METHODOLOGIES:

- Lecture
- Group discussion
- Demonstration
- Self-paced instruction

ASSESSMENT METHODS:

- Written test
- Oral test
- Interview
- Direct observation

LO 3. Maintain Measuring Instruments

ASSESSMENT CRITERIA:

1. Measuring instruments are kept free from corrosion.
2. Measuring instruments not dropped to avoid damage.
3. Measuring instruments are cleaned before and after using.

CONTENTS:

- Proper maintenance of measuring instruments
- Importance of calibrating measuring instruments
- Maintenance schedule form

CONDITIONS:

The following resources are needed:

- Measuring tools and instruments
- Maintenance supplies and materials

METHODOLOGIES:

- Lecture
- Group discussion
- Demonstration
- Self-paced instruction

ASSESSMENT METHODS:

- Written test
- Interview
- Direct observation

UNIT OF COMPETENCY	:	INTERPRET TECHNICAL DRAWINGS AND PLANS
MODULE TITLE	:	INTERPRETING TECHNICAL DRAWINGS AND PLANS
NOMINAL DURATION	:	60 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and attitudes in analyzing and interpreting symbols, data and work plan based on the required performance standards.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. analyze signs, symbols and data.
- LO 2. interpret technical drawings and plans.
- LO 3. apply freehand sketching.

LO 1. Analyze Signs, Symbols, and Data

ASSESSMENT CRITERIA:

1. Technical plans are obtained according to job requirements.
2. Signs, symbols, and data are identified according to job specifications.
3. Signs, symbols, and data are selected according to classification or as appropriate in drawing.

CONTENTS:

- Drawing symbols, signs, and data
- Importance of working drawing
- Alphabet of lines
- Orthographic views
- Kinds of drawing instruments

CONDITIONS:

The following resources are needed:

- Classroom for discussion
- Workplace location
- Drawing instruments
- Measuring instruments
- Blueprints of plan
- Working drawing
- Instructional materials

METHODOLOGIES:

- Demonstration
- Discussion
- Self-paced learning

ASSESSMENT METHODS:

- Direct observation
- Written test
- Oral test

LO 2. Interpret Technical Drawings and Plans

ASSESSMENT CRITERIA:

1. Necessary tools, materials, and equipment are identified according to plan.
2. Components, assemblies, or objects are recognized per job requirement.
3. Dimensions and specifications are determined and used according to job requirements.

CONTENTS:

- Basic technical drawing
- Technical plans and schematic diagram
- Symbols and abbreviations

CONDITIONS:

The following resources are needed:

- Measuring instruments
- Blueprints of plans
- Instructional materials

METHODOLOGIES:

- Demonstration
- Discussion
- Self-paced learning

ASSESSMENT METHODS:

- Direct observation
- Written test
- Oral test

LO 3. Apply Freehand Sketching

ASSESSMENT CRITERION:

1. Appropriate free hand sketching is produced in accordance to job requirements.

CONTENTS:

- Free hand sketching

CONDITIONS:

The following resources are needed:

- Pencil and paper
- Instructional materials

METHODOLOGIES:

- Discussion
- Self-paced learning

ASSESSMENT METHODS:

- Direct observation
- Written test
- Oral test

UNIT OF COMPETENCY	:	OBSERVE PROCEDURES, SPECIFICATIONS, AND MANUALS OF INSTRUCTIONS
MODULE TITLE	:	OBSERVING PROCEDURES, SPECIFICATIONS, AND MANUALS OF INSTRUCTIONS
NOMINAL DURATION	:	60 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and desirable attitudes in identifying, interpreting, and applying services to specifications and manuals. Storing manuals is also covered in this module.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. identify, access, and interpret specifications and manuals.
- LO 2. apply information in manuals.
- LO 3. store manuals.

LO 1. Identify, Access, and Interpret Specifications, and Manuals

ASSESSMENT CRITERIA:

1. Manuals are identified and accessed per job requirement.
2. Version and date of manual are checked to ensure correct specification and procedures.
3. Relevant sections and chapters of specifications are located in manuals in relation to the work to be conducted.
4. Information and procedure in the manual are interpreted in accordance with industry practices.

CONTENTS:

- Types of manuals used in construction sector
- Different types of symbols
- Accessing information and data

CONDITIONS:

The following resources are needed:

- Manuals/catalogues
 - Manual of specification
 - Repair manual
 - Maintenance manual
- Instructional materials

METHODOLOGIES:

- Discussion/Lecture
- Self-paced learning

ASSESSMENT METHODS:

- Direct observation
- Written test
- Oral test

LO 2. Apply Information in Manual

ASSESSMENT CRITERIA:

1. Work steps are correctly identified in accordance with manufacturer's specification.
2. Manual data are applied according to the given task.
3. Adjustments are made in accordance with information contained in the manual or specifications.

CONTENTS:

- Manual/Specification application
- Interpreting specifications

CONDITIONS:

The following resources are needed:

- Classroom for discussion
- Manuals
- Workplace location
- Measuring instruments
- Instructional materials

METHODOLOGIES:

- Practical application
- Discussion
- Self-paced learning

ASSESSMENT METHODS:

- Demonstration
- Oral test
- Written test

LO 3. Store Manuals

ASSESSMENT CRITERION:

Manuals and other learning materials are stored appropriately to prevent damage, for ready access and updating of information in accordance with subject requirements.

CONTENTS:

- Proper storing of manuals in accordance with shop rules

CONDITIONS:

The following resources are needed:

- Kinds of manuals
 - Manufacturer's specification manual
 - Repair manual
 - Maintenance procedure manual
 - Periodic maintenance manual
- Store area
- Learning materials

METHODOLOGIES:

- Practical application
- Discussion/Lecture

ASSESSMENT METHODS:

- Direct observation
- Oral test
- Written test

UNIT OF COMPETENCY	:	APPLY OCCUPATIONAL HEALTH AND SAFETY (OHS) PRACTICES AND 5S IN THE WORKPLACE
MODULE TITLE	:	APPLYING OCCUPATIONAL HEALTH AND SAFETY (OHS) PRACTICES AND 5S IN THE WORKPLACE
NOMINAL DURATION	:	40 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, desirable attitudes, and values needed to work safely in the workplace; interpret safety signs and symbols; and follow emergency procedures.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. follow safe workplace procedures for hazard identification and risk control.
- LO 2. employ safe working practices.
- LO 3. respond to accidents.

LO 1. Follow Safe Workplace Procedures for Hazard Identification and Risk Control

ASSESSMENT CRITERIA:

1. Hazards in the work area are recognized and reported to designated personnel according to workplace procedures.
2. Work instructions for controlling risks are followed according to workplace procedures.
3. Emergencies are responded to according to workplace procedures / situations.
4. Emergency exits are identified and kept clear of obstacles at all times.
5. All work areas are kept clean according to enterprise procedures.
6. All equipment and safety devices are used according to company or manufacturer's procedures.

CONTENTS:

- General Occupational Health and Safety (OHS) principles, responsibilities, legislation and requirements
- General ergonomic principles
- Types of workplace hazards
- First aid/remedial procedures
- Workplace procedures

CONDITIONS:

The following resources are needed:

- Hazards and ergonomic guidelines
- Designated personnel
- Emergency equipment and safety devices
- Hazardous materials and equipment
- Hazard warnings and safety signs
- Materials, hand tools, equipment, and specifications
- OHS and Personal Protective Equipment (PPE)
- Workplace/simulated environment
- Job requirements and learning materials
- Multimedia equipment

METHODOLOGIES:

- Self-paced instruction
- Discussion
- Multimedia presentation
- Practical application

ASSESSMENT METHODS:

- Direct observation
- Written test
- Oral test

LO 2. Employ Safe Working Practices

ASSESSMENT CRITERIA:

1. Hazard warnings and safety signs are kept visible per Occupational Health and Safety (OHS) standards.
2. Work is performed in accordance with ergonomic guidelines.
3. All hazardous materials and equipment are handled in accordance with specified safe handling guidelines.
4. Safe manual handling and safe equipment operation techniques are employed per OHS standards.
5. Potentially hazardous situations are immediately reported, following the standard operating procedure.

CONTENTS:

- General OHS principles, responsibilities, legislation, and requirements
- General ergonomic principles
- Procedures in manual handling of heavy objects and hazardous materials
- Safe handling of equipment
- Workplace procedures

CONDITIONS:

The following resources are needed:

- Designated personnel
- Equipment and safety devices
- Occupational health and safety standards
- Ergonomic guidelines
- Hazardous materials and equipment
- Hazard warnings and safety signs
- Job requirements
- Materials, hand tools, equipment, and specifications
- Personal Protective Equipment (PPE)
- Workplace/simulated environment
- Learning materials
- Multimedia equipment

METHODOLOGIES:

- Self-paced instruction
- Discussion
- Multimedia presentation
- Practical application

ASSESSMENT METHODS:

- Direct observation
- Written test
- Oral test

LO 3. Respond to Accidents

ASSESSMENT CRITERIA:

1. Workplace accidents are identified according to Occupational Health and Safety (OHS) standards.
2. Workplace emergency first aid/remedial procedures are followed per OHS standards.
3. Accidents are reported to authorized personnel according to workplace policies.

CONTENTS:

- General OHS principles, responsibilities, legislations and requirements
- Types of workplace hazards
- OHS standards manual
- First aid/remedial procedures
- Workplace procedures

CONDITIONS:

The following resources are needed:

- Workplace simulated accidents
- Designated personnel
- Simulated emergencies
- OHS standards
- Accidents/emergency procedures manual
- First aid kits
- Personal Protective Equipment (PPE)
- Workplace/simulated environment
- Learning materials
- Multimedia equipment

METHODOLOGIES:

- Self-paced instruction
- Discussion
- Multimedia presentation
- Practical application

ASSESSMENT METHODS:

- Direct observation
- Written test
- Oral test

UNIT OF COMPETENCY	:	MAINTAIN TOOLS AND EQUIPMENT
MODULE TITLE	:	MAINTAINING TOOLS AND EQUIPMENT
NOMINAL DURATION	:	100 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and right attitudes in checking conditions, performing preventive maintenance and storing of tools and equipment based on the required performance standards.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. check condition of tools and equipment.
- LO 2. perform basic preventive maintenance.
- LO 3. store tools and equipment.

LO 1. Check Condition of Tools and Equipment

ASSESSMENT CRITERIA:

1. Materials, tools, and equipment are identified according to classification and job requirements.
2. Unsafe tools are identified and marked for repair according to safety procedures
3. Non-functional tools and equipment are segregated and labeled according to classification.
4. Safety of tools and equipment are observed in accordance with manufacturer's instructions.
5. Conditions of Personal Protective Equipment (PPE) are checked in accordance with manufacturer's instructions.

CONTENT:

- Types and classification of materials and tools
- Identification of non-functional tools and equipment
- Safety practices/use of PPE
- Safe and unsafe conditions of tools

CONDITIONS:

The following resources are needed:

- Materials
 - Tools condition report form
 - Lubricants
 - Cleaning materials
 - Rust remover
 - Rags
 - Spare parts of equipment
- Tools
 - Cutting tools – back saw, cross-cut saw, rip saw
 - Boring tools – auger bit, gimlet bit, drill bit
 - Holding tools – vise grip, c-clamp, bench vise
- Measuring instruments / equipment
- Multimedia equipment
- Personal Protective Equipment (PPE)
 - Goggles
 - Gloves
 - Safety shoes
 - Aprons/Coveralls

METHODOLOGIES:

- Lecture
- Multimedia presentation
- Self-paced learning

ASSESSMENT METHOD:

- Written test
- Interview

LO 2. Perform Basic Preventive Maintenance

ASSESSMENT CRITERIA:

1. Appropriate lubricants are identified according to type of equipment.
2. Tools and equipment are lubricated according to preventive maintenance schedule or manufacturer's specification.
3. Measuring instruments are calibrated in accordance with manufacturer's instruction.
4. Tools are cleaned and lubricated according to standard procedures.
5. Defective instruments, equipments and accessories are inspected and replaced according to manufacturer's specifications.
6. Tools are inspected, repaired, and replaced after use.
7. Work place is cleaned and kept in safe state in line with Occupational Health and Safety (OHS) regulation.

CONTENTS:

- Types and uses of lubricants
- Preventive maintenance
- Good housekeeping

CONDITIONS:

The following resources are needed:

- Tools
 - Cutting tools – back saw, cross-cut saw, rip saw
 - Boring tools – auger bit, brace, gimlet, hand drill
 - Holding tools – vise grip, c-clamp, bench vise
 - Measuring instruments – push-pull rule, meter, ruler, zigzag rule
- Personal Protective Equipment (PPE)
 - Goggles
 - Gloves
 - Safety shoes
 - Aprons/Coveralls

METHODOLOGIES:

- Lecture
- Demonstration
- Self-paced learning

ASSESSMENT METHODS:

- Direct observation
- Written test
- Practical demonstration

LO 3. Store Tools and Equipment

ASSESSMENT CRITERIA:

1. Inventory of tools, instruments and equipment are conducted and recorded per shop practices.
2. Tools and equipment are stored in safe and appropriate location in accordance with manufacturer's specifications or company procedures.
3. Workplace is cleaned and kept safe in line with Occupational Health and Safety (OHS) regulations.

CONTENTS:

- Tools inventory
- Proper storing of tools and equipment

CONDITIONS:

The following resources are needed:

Forms

- Maintenance schedule forms
- Requisition slip
- Inventory slip
- Inspection form

METHODOLOGIES:

- Lecture
- Self-paced learning
- Practical application

ASSESSMENT METHODS:

- Written test
- Interview
- Demonstration

UNIT OF COMPETENCY	:	USE HAND TOOLS
MODULE TITLE	:	USING HAND TOOLS
NOMINAL DURATION	:	100 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and attitudes for the safe use and handling of hand tools. Hand tools include portable power tools.

SUMMARY OF LEARNING OUTCOMES:

- Upon completion of this module, the students should be able to:
- LO 1. prepare hand tools.
 - LO 2. utilize hand tools.
 - LO 3. store hand tools.

LO 1. Prepare Hand Tools

ASSESSMENT CRITERIA:

1. Hand tools are identified and selected according to task requirements.
2. Appropriate hand tools are checked for proper operation and safety practices.
3. Unsafe or faulty tools are identified and marked for repair according to standard operating procedure.

CONTENTS:

- Types and uses of hand power/portable tools
- Shop policies and procedures

CONDITIONS:

The following resources are needed:

- Job requirements
- Hand tools, equipments and specification
- Personal Protective Equipment (PPE)
- Workplace/simulated environment
- Learning materials

METHODOLOGIES:

- Self-paced instruction
- Discussion
- Multimedia presentation
- Practical application

ASSESSMENT METHODS:

- Direct observation
- Written test
- Interview

LO 2. Utilize Hand Tools

ASSESSMENT CRITERIA:

1. Tools are used according to job requirements.
2. Safety procedures in using hand tools are properly observed and Personal Protective Equipment (PPE) are used.
3. Malfunctions, unplanned or unusual events are reported to the supervisor.

CONTENTS:

- Safety procedures in using hand tools
- Shop policies/procedures

CONDITIONS:

The following resources are needed:

- Job requirements
- Hand tools, equipment and specification
- Personal Protective Equipment (PPE)
- Workplace/simulated environment
- Learning materials
- Multimedia equipment

METHODOLOGIES:

- Self-paced instruction
- Discussion
- Multimedia presentation
- Practical application

ASSESSMENT METHODS:

- Direct observation
- Written test
- Performance assessment

LO 3. Store Hand Tools

ASSESSMENT CRITERIA:

1. Hand tools are handled according to established or recommended safety procedures.
2. Hand tools are stored safely in accordance with standard operating procedures.
3. Routine maintenance of tools are undertaken according to standard operating procedures, principles, and techniques.

CONTENTS:

- List of hand tools
- Safety procedures in storing hand tools
- Shop standard operating procedures
- Maintenance of tools

CONDITIONS:

The following resources are needed:

- Job requirements
- Materials, hand tools, equipment and specifications
- Personal Protective Equipment (PPE)
- Workplace/simulated environment
- Learning materials

METHODOLOGIES:

- Self-paced instruction
- Discussion
- Multimedia presentation
- Practical application

ASSESSMENT METHODS:

- Direct observation
- Written test
- Performance assessment

MODULES OF INSTRUCTION

THIRD YEAR

UNIT OF COMPETENCY	:	OPERATE CUTTING MACHINES
MODULE TITLE	:	OPERATING CUTTING MACHINES
NOMINAL DURATION	:	100 HOURS
MODULE DESCRIPTION	:	This module deals with the knowledge, skills, and right attitudes required to cut various substrates or stocks to size using different cutting machines.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. determine job requirements.
- LO 2. prepare materials and tools.
- LO 3. set up machine.
- LO 4. cut substrate or stocks.
- LO 5. perform 5S in the workplace.

LO 1. Determine Job Requirements

ASSESSMENT CRITERIA:

1. Work instructions are secured following standards operating procedure.
2. Work instructions are determined on the basis of job requirements.

CONTENTS:

- Materials specifications
- Interpretation of work plans

CONDITIONS:

The following resources are needed:

- Instruction sheets
- Information sheet
- Job sheet
- Manuals of instruction
- Work plan

METHODOLOGIES:

- Self-paced learning
- Lecture
- Discussion

ASSESSMENT METHODS:

- Interview
- Written tests

LO 2. Prepare Materials and Tools

ASSESSMENT CRITERIA:

1. Personal Protective Equipment (PPE) is selected and used as per job requirements.
2. Materials and tools are selected per job requirements.
3. Defects on materials are noted and reported to the appropriate personnel following standard operating procedure.

CONTENTS:

- Kinds of PPE in operating cutting machine
- Importance of Personal Protective Equipment
- Different types of cutting machines
- Classification of materials and tools

CONDITIONS:

The following resources are needed:

- Personal Protective Equipment (PPE)
 - Apron
 - Goggles
 - Dust mask
 - Ear guard
- Materials
 - Wood/stock (hard wood/soft wood)
 - Panels medium density fiber board (MDF)
 - Practice board
 - Plywood
- Tools
 - Hand tools
 - Caliper
 - Push-pull rule
 - Zigzag rule
 - Bolo
 - Hacksaw
 - Scissors
 - Cutting Machine
 - Radial arm saw
 - Band saw

METHODOLOGIES:

- Lecture
- Discussion
- Practical application

ASSESSMENT METHODS:

- Written test
- Observation
- Demonstration
- Interview

LO 3. Set Up Machine

ASSESSMENT CRITERIA:

1. Machines are identified and selected based on job requirements.
2. Machine parameters are set following standard operating procedure.
3. Trial run operation of machine is performed based on standard operating procedure.
4. Outputs of trial run are inspected and compared against job specification.
5. Machine parameters are re-adjusted based on the findings and as per job requirements.
6. Machine abnormalities are noted and reported to appropriate personnel.

CONTENTS:

- Machine parameters
- Job specifications
- Kinds/types of abnormalities in operating cutting machine
- Machine setting procedure

CONDITIONS:

The following resources are needed:

- Specifications
 - Route sheet (cutting list, cutting order, materials specifications)
- Machines
- Materials (wood)

METHODOLOGIES:

- Modular instruction
- Lecture
- Practical application

ASSESSMENT METHODS:

- Demonstration
- Observation
- Interview

LO 4. Cut Substrate or Stock

ASSESSMENT CRITERIA:

1. Materials are cut following established and recommended safe cutting procedure.
2. Cut materials are checked for quality based on the job requirements.
3. Defective cut materials are segregated and reported to appropriate personnel based on standard operating procedure.
4. Cut pieces of stock are endorsed or transferred to next station following standard operating procedure

CONTENTS:

- Safe cutting procedure
- Criteria for checking equal cut
- Kinds of defective cut
- Types stock

CONDITIONS:

The following resources are needed:

- Materials
 - Hard wood
 - Soft wood
 - Panels
 - Canes
 - Poles
 - Vines
- Cutting machine
- Tools
 - Push-pull rule
 - Zigzag rule
 - Try square

METHODOLOGIES:

- Modular Instruction
- Practical application
- Self-paced instruction

ASSESSMENT METHODS:

- Observation
- Demonstration and interview

LO 5. Perform 5S in the Workplace

ASSESSMENT CRITERIA:

1. Shutting down of machine is performed following recommended procedure.
2. Machine and work areas are cleaned following standard operating procedure.
3. Off- cuts and excess materials are disposed of following the occupational health and safety requirements.
4. Materials that can be reused are collected and stored.
5. Tools are returned and arranged to proper places.

CONTENTS:

- Machine shut down procedure
- Occupational Health and Safety (OHS) regulations
- Good housekeeping (5S)

CONDITIONS:

The following resources are needed:

- Instruction sheet
- Occupational Health and Safety (OHS) regulations manual
- Cleaning materials
- Store area
- Learning material

METHODOLOGIES:

- Lecture
- Discussion
- Practical application

ASSESSMENT METHODS:

- Written test
- Interview
- Observation

UNIT OF COMPETENCY	:	OPERATE SURFACE/MACHINE/PLANER
MODULE TITLE	:	OPERATING SURFACE/MACHINE/PLANER
NOMINAL DURATION	:	100 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and right attitudes required in operating jointer and planer machines for various materials.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. determine job requirements.
- LO 2. prepare materials and tools.
- LO 3. set up machine.
- LO 4. perform surfacing.
- LO 5. perform workplace organization.

LO 1. Determine Job Requirements

ASSESSMENT CRITERIA:

1. Work instruction is secured following standard operating procedure.
2. Work instruction is determined based on the job requirements.

CONTENTS:

- Project planning
- Interpreting work instruction

CONDITIONS:

The following resources are needed:

- Work instruction
- Manuals
- Learning materials
- Multimedia equipment

METHODOLOGIES:

- Self-paced learning
- Lecture
- Multimedia presentation
- Discussion

ASSESSMENT METHODS:

- Written test
- Interview

LO 2. Prepare Tools and Materials

ASSESSMENT CRITERIA:

1. Personal Protective Equipment (PPE) is selected and used as per job requirement.
2. Materials and tools are selected per job requirement.
3. Defects on materials are noted and reported to the appropriate personnel following standard operating procedure.

CONTENTS:

- Kinds of Personal Protective Equipment (PPE)
- Kinds of tools and their uses
- Types of wood
- Defects of wood

CONDITIONS:

The following resources are needed:

- Manuals
- Learning materials
- Tools and materials
- Personal Protective Equipment (PPE)
- Multimedia equipment

METHODOLOGIES:

- Self-paced learning
- Lecture
- Multimedia presentation
- Discussion

ASSESSMENT METHOD:

- Written test
- Interview

LO 3. Set Up Machines

ASSESSMENT CRITERIA:

1. Machines are identified and selected based on job requirements.
2. Machine parameters are set following standard operating procedure.
3. Trial run operation of machine is performed based on job specifications.
4. Outputs of trial run operation are inspected and compared against job specification.
5. Machine parameters are re- adjusted based on the findings and as per job requirements.
6. Machine abnormalities are noted and reported to appropriate personnel.

CONTENTS:

- Types of planing machines
- Kinds of machine parameters
- Safety practices

CONDITIONS:

The following resources are needed:

- Surfacers/Thickness Planer
- Jointer plane
- Personal Protective Equipment (PPE)
- Manual of instructions
- Multimedia equipment

METHODOLOGIES:

- Self-paced learning
- Demonstration
- Lecture
- Multimedia presentation

ASSESSMENT METHODS:

- Written test
- Interview
- Demonstration

LO 4. Perform Surfacing

ASSESSMENT CRITERIA:

1. Materials are surfaced following established and recommended safety procedure.
2. Surfaced materials are checked for quantity and quality based on job requirements.
3. Defective surfaced materials are segregated and reported to appropriate personnel based on standard operating procedure.
4. Surfaced pieces of stock are endorsed or transferred to next station following standard operating procedure.

CONTENTS:

- Safety practices
- Kinds of wood defects
- Steps in machine operations

CONDITIONS:

The following resources are needed:

- Planer
- Jointer plane
- Personal Protective Equipment (PPE)
- Tools and materials
- Route sheet
- Learning materials/manual

METHODOLOGIES:

- Lecture/Discussion
- Demonstration
- Self-paced learning

ASSESSMENT METHOD:

- Written test
- Observation
- Interview

LO 5. Perform Workplace Organization

ASSESSMENT CRITERIA:

1. Surfacing machines are shut down following operating procedure.
2. Surfacing machines and work area are cleaned following standard operating procedure.
3. Materials that can be re-used are collected and stored per company rules and regulations.
4. Tools are returned to and arranged in their proper places.

CONTENTS:

- List of procedures
- Shop management
- Safety practices

CONDITIONS:

The following resources are needed:

- Manuals
- Learning materials
- Multimedia equipment

METHODOLOGIES:

- Lecture
- Multimedia presentation
- Self-paced learning

ASSESSMENT METHODS:

- Written test
- Interview
- Direct observation

UNIT OF COMPETENCY	:	OPERATE SANDING MACHINES
MODULE TITLE	:	OPERATING SANDING MACHINES
NOMINAL DURATION	:	100 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and right attitudes required in operating sanding machines

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. determine job requirement.
- LO 2. prepare materials and consumables.
- LO 3. set up machine.
- LO 4. perform sanding operation.
- LO 5. perform workplace organization.

LO 1. Determine Job Requirements

ASSESSMENT CRITERIA:

1. Work instructions are secured following standard operating procedures.
2. Work instructions are analyzed and interpreted based on the job requirements.

CONTENTS:

- Instructional sheets
- Interpreting job sheets
- Job requirements

CONDITIONS:

The following resources are needed:

- Information sheets
- Job sheets
- Multimedia equipment

METHODOLOGIES:

- Self-paced learning
- Discussion
- Lecture
- Multimedia presentation

ASSESSMENT METHODS:

- Written
- Observation
- Interview

LO 2. Prepare Materials and Consumables

ASSESSMENT CRITERIA:

1. Personal Protective Equipment (PPE) is selected and used per job requirements.
2. Materials and consumables are secured and obtained based on job requirements.
3. Materials and consumables are checked against quantity, quality, and job specifications.
4. Unavailability of consumables are noted and reported following standard operating procedure.

CONTENTS:

- Kinds of PPE in sanding
- Materials and consumables in sanding

CONDITIONS:

The following resources are needed:

- Personal Protective Equipment (apron, goggles, dust mask)
- Instruction sheets
- Abrasives
 - Sand paper
 - Belt sanding materials
- Sanding disc
- Adhesives
- Multimedia equipment

METHODOLOGIES:

- Lecture
- Multimedia presentation
- Discussion

ASSESSMENT METHODS:

- Written test
- Observation

LO 3. Set Up Machines

ASSESSMENT CRITERIA:

1. Machines are identified and selected based on job requirements.
2. Machine parameters are identified and set following standard operating procedure.
3. Trial run for machine operation is performed based on job specifications.
4. Outputs of trial run operation are inspected and compared against specifications.
5. Machine parameters are re- adjusted based on the findings and per job requirements.
6. Machine abnormalities are noted and reported to the appropriate personnel.

CONTENTS:

- Instruction sheet
- Standard sanding techniques and procedures
- Rules and regulations
- Safety procedures

CONDITIONS:

The following resources are needed:

- Machines
- Vertical belt sander
- Wide belt sander
- Horizontal belt sander
- Orbital sander
- Drum sander
- Stroke sander
- Abrasive
- Adhesive
- Multimedia equipment

METHODOLOGIES:

- Self-paced learning
- Demonstration
- Lecture
- Multimedia presentation

ASSESSMENT METHODS:

- Observation
- Demonstration
- Interview

LO 4. Perform Sanding Operations

ASSESSMENT CRITERIA:

1. Materials are sanded following established and recommended safety procedures.
2. Sanded materials are checked for quantity and quality based on job requirements.
3. Defective sanded materials are segregated and reported to the appropriate personnel based on standard operating procedure.
4. Sanded pieces of stock are endorsed or transferred to next station following standard operating procedure.

CONTENTS:

- Standard sanding techniques and procedures
- Safety procedures
- Perform sanding operations
- Sanding defects

CONDITIONS:

The following resources are needed:

- Materials and consumables
- Job specification
- Machines
- Machine parameters
- Multimedia equipment

METHODOLOGIES:

- Demonstration
- Discussion
- Lecture
- Multimedia presentation

ASSESSMENT METHODS:

- Observation
- Demonstration
- Interview

LO 5. Perform Workplace Organization

ASSESSMENT CRITERIA:

1. Sanding machines are shut down following recommended procedures.
2. Sanding machine and work area are cleaned following standard operating procedure.
3. Materials that can be re-used are collected and stored as per company rules and regulations.
4. Tools are returned to and arranged in proper places.

CONTENTS:

- Occupational Health and Safety (OHS) requirements
- Perform good housekeeping

CONDITIONS:

The following resources are needed:

- OHS handbook
- Housekeeping materials

METHODOLOGIES:

- Discussion
- Lecture
- Multimedia presentation

ASSESSMENT METHODS:

- Observation
- Demonstration

UNIT OF COMPETENCY	:	PERFORM BASIC PREVENTIVE MAINTENANCE FOR MACHINES AND TOOLS
MODULE TITLE	:	PERFORMING BASIC PREVENTIVE MAINTENANCE FOR MACHINES AND TOOLS
NOMINAL DURATION	:	100 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and desirable attitudes required in performing basic preventive maintenance for machine and power tools.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. inspect and identify defects of machines and power tools.
- LO 2. perform basic preventive maintenance servicing of machines.
- LO 3. prepare preventive maintenance report.

LO 1. Inspect and Identify Defects of Machines and Power Tools

ASSESSMENT CRITERIA:

1. Preventive maintenance checklist is used to inspect the machines.
2. Defects are detected based on the results of inspection conducted.
3. Recommendation for the prevention/correction of the defects is prepared.
4. The standard operating procedures in identifying the minor defects of the machines and power tools are followed.

CONTENTS:

- Types of machines and power tools
- Minor defects in machines and power tools
- Major defects in machines and power tools

CONDITIONS:

The following resources are needed:

Machines

- Cutting machines
- Circular saw
- Radial saw
- Band saw

Surfacing machines

- Jointer
- Thickness planer

Sanding machine

- Wide belt sander
- Vertical belt sander
- Horizontal belt sander
- Stroke sander
- Orbital sander
- Disc sander
- Drum sander

METHODOLOGIES:

- Demonstration
- Lecture
- Self-paced learning

ASSESSMENT METHODS:

- Observation
- Demonstration
- Written test

LO 2. Perform Basic Preventive Maintenance Servicing Of Machines

ASSESSMENT CRITERIA:

1. Appropriate Personal Protective Equipment (PPE) is used based on the job requirements.
2. Basic hand tools are selected and used per job requirements.
3. Preventive maintenance and servicing of machine is performed following the standard operating procedure.

CONTENTS:

- General safety practices
- Information on preventive maintenance
- Steps in performing preventive maintenance

CONDITIONS:

The following resources are needed:

- Personal Protective Equipment (PPE)
- Machines
- Power tools
- Oil or fluid
- Hand tools

METHODOLOGIES:

- Demonstration
- Lecture
- Self-paced learning

ASSESSMENT METHODS:

- Observation
- Demonstration
- Interview
- Written test

LO 3. Prepare Preventive Maintenance Report

ASSESSMENT CRITERIA:

1. Shop rules and regulations in accomplishing and submitting preventive checklist to the appropriate personnel are properly followed.
2. Maintenance service request form is accomplished and submitted to the appropriate personnel based on the company rules and regulations.

CONTENTS:

- Basic preventive machine maintenance servicing
- Preparing preventive maintenance report

CONDITIONS:

The following resources are needed:

- Preventive maintenance checklist form and request form

METHODOLOGIES:

- Discussion
- Lecture
- Practical exercises

ASSESSMENT METHODS:

- Observation
- Demonstration
- Interview
- Written test

MODULES OF INSTRUCTION

FOURTH YEAR

UNIT OF COMPETENCY	:	APPLY QUALITY STANDARDS
MODULE TITLE	:	APPLYING QUALITY STANDARDS
NOMINAL DURATION	:	100 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and desirable attitudes required to apply quality standards in the workplace. It also includes the application of relevant safety procedures and regulations, organization procedures, and customer requirements.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. assess quality of received materials or components.
- LO 2. assess own work.
- LO 3. engage in quality improvement.

LO 1. Assess Quality of Received Materials or Components

ASSESSMENT CRITERIA:

1. Received materials or component parts are checked based on material specifications.
2. Defective material or components are identified following standard operating procedures.
3. Defective materials or components are replaced in accordance with workplace procedures.

CONTENTS:

- Production processes
- Checking of materials and components quality
- Types of materials and components defects
- Types and uses of materials and components
- Company standard operating procedures

CONDITIONS:

The following resources are needed:

- Quality standards
- Documents
- Defective materials/components
- Job requirements
- Materials, hand tools, equipment, and specifications
- Personal Protective Equipment (PPE)
- Workplace/simulated environment
- Learning materials
- Multimedia equipment

METHODOLOGIES:

- Demonstration
- Self-paced learning
- Discussion
- Multimedia presentation
- Practical application

ASSESSMENT METHODS:

- Direct observation
- Written test

LO 2. Assess Own Work

ASSESSMENT CRITERIA:

1. Documents relative to quality are identified and used according to quality standard procedures.
2. Completed work is checked based on workplace standards.
3. Deviations from specified quality standards are documented and reported in accordance with the workplace standard operating procedures.

CONTENTS:

- Production processes
- Checking completed works
- Types documents relative to quality and uses
- Types and uses of materials and components
- Company standard operating procedures

CONDITIONS:

The following resources are needed:

- Quality standards
- Documents
- Workplace/simulated environment
- Learning materials
- Multimedia equipment

METHODOLOGIES:

- Self-paced learning
- Discussion
- Multimedia presentation
- Practical application

ASSESSMENT METHODS:

- Direct observation
- Written test

LO 3. Engage In Quality Improvement

ASSESSMENT CRITERIA:

1. Improvement processes and procedures are performed in relation to workplace assignment.
2. Work is carried out in accordance with process improvement procedures.
3. Performance of operation or quality of product or service is monitored in accordance to customer's satisfaction.

CONTENTS:

- Production processes
- Process improvement procedures
- Types and uses of materials and components
- Company standard operating procedures
- Safety practices and applications

CONDITIONS:

The following resources are needed:

- Customer
- Quality standards
- Documents
- Defective
- Materials/components
- Job requirements
- Materials, hand tools, equipment and specification
- Personal Protective Equipment (PPE)
- Workplace/simulated environment
- Learning materials
- Multimedia equipment

METHODOLOGIES:

- Demonstration
- Self-paced learning
- Discussion
- Multimedia presentation
- Practical application

ASSESSMENT METHODS:

- Direct observation
- Written test

UNIT OF COMPETENCY	:	PREPARE SURFACE FOR FINAL COAT
MODULE TITLE	:	PREPARING SURFACE FOR FINAL COATING
NOMINAL DURATION	:	100 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and desirable attitude required to prepare surface of furniture for final coating.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO1. prepare materials, tools, and equipment.
- LO2. prepare surface for finishing.
- LO3. perform good housekeeping.

LO 1. Prepare Materials, Tools, and Equipment

ASSESSMENT CRITERIA:

1. Occupational Safety and Health (OHS) requirements are complied with.
2. Personal Protective Equipment (PPE) are selected and used following occupational health and safety requirements.
3. Work instruction is secured from appropriate personnel following shop rules and regulations.
4. Materials, tools and equipment are prepared following job specifications and manufacturer's recommendations.

CONTENTS:

- OHS standards
- Surface preparation materials, tools and equipment types and uses
- Job specifications or work requirement
- PPE appropriate for the task

CONDITIONS:

The following resources are needed:

- Work instructions
- Materials
 - Sand paper
 - Putty
 - Paint remover
 - Filler
 - Glazing
 - Staining
- Tools
 - Pallet knife
 - Sanding block
 - Brushes
 - Steel wool
- Equipment
 - Furniture
 - Portable sander
 - Working table

METHODOLOGIES:

- Group discussion
- Modular or self-paced learning
- Demonstration

ASSESSMENT METHODS:

- Written test
- Demonstration

LO 2. Prepare Surface for Finishing

ASSESSMENT CRITERIA:

1. Surface preparation procedure is performed following job requirements.
2. Furniture / items with finished surface are stacked following standard practices.

CONTENTS:

Surface finishing procedures:

Sanding

- Sealing and base coating
- Staining and sealing
- Filling and sealing
- Filling and staining
- Filling and special finish
- Procedures in stacking furniture/items with finished surfaces

CONDITIONS:

The following resources are needed:

- Furniture parts
- Semi-assembled parts
- Fully-assembled furniture
- Fittings of Joint
- Sanding material and equipment
- Sealing , staining and filling materials
- Learning materials
- Personal Protective Equipment (PPE)
- Work area

METHODOLOGIES:

- Group discussion
- Modular or self-paced learning
- Demonstration

ASSESSMENT METHODS:

- Written test
- Demonstration

LO 3. Perform Good Housekeeping

ASSESSMENT CRITERIA:

1. Work area is cleaned following shop standard operating procedure.
2. Put away procedure is performed according to shop rules.
3. Completion report is prepared and submitted to appropriate personnel following shop rules and practices.

CONTENTS:

- Good housekeeping procedures
- Materials economy
- Preparing reports

CONDITIONS:

The following resources are needed:

- Work area
- Learning materials
- Personal Protective Equipment (PPE)

METHODOLOGIES:

- Group discussion
- Modular or Self-paced learning
- Demonstration

ASSESSMENT METHODS:

- Written test
- Demonstration

UNIT OF COMPETENCY	:	APPLY SURFACE COATING USING SPRAY GUN SYSTEM
MODULE TITLE	:	APPLYING SURFACE COATING USING SPRAY GUN SYSTEM
NOMINAL DURATION	:	100 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and desirable attitudes required to apply surface coating using spray gun system.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. prepare materials, tools, and equipment.
- LO 2. apply surface coating.
- LO 3. perform good housekeeping.

LO 1. Prepare Materials, Tools, and Equipment

ASSESSMENT CRITERIA:

1. Personal Protective Equipment (PPE) are selected and used following occupational health and safety requirements.
2. Work instruction is secured from appropriate personnel following shop rules and practices.
3. Materials, tools, and equipment are prepared following job specifications and manufacturer's recommendations.

CONTENTS:

- Occupational Safety and Health (OHS) standards
- Coating materials, tools, and equipment-types and uses
- Interpret manufacturer's recommendations
- Work piece standard requirements
- Trade mathematics

CONDITIONS:

The following resources are needed:

Materials

- Paints
- Thinner
- Color stains
- Sealers
- Varnish

Tools

- Spray gun
- Viscosity cup
- Wet and / or dry thermometer
- Wrenches
- Cleaning brushes
- Air compressor

Manufacturer's manual

Work piece standards charts

Learning materials

Personal Protective Equipment (PPE)

METHODOLOGIES:

- Group discussion
- Modular or self-paced learning
- Practical exercises

ASSESSMENT METHODS:

- Written test
- Demonstration

LO 2. Apply Surface Coating

ASSESSMENT CRITERIA:

1. Testing procedure for tools and equipment is performed in line with job specifications.
2. Spray gun system activation procedure is performed following manufacturer's recommendations.
3. Safe handling procedure for finished items is performed following shop rules and safe practices.
4. Completion report is prepared and submitted to appropriate personnel following shop rules and safe practices.
5. Work area is cleaned following shop rules and practices.

CONTENTS:

- Procedures and techniques in applying surface coating
- Occupational Health and Safety (OHS) standards
- Coating materials, tools and equipment-types and uses
- Manufacturer's recommendations
- Work piece standard requirements
- Proper housekeeping
- Trade mathematics
- Materials economy
- Preparing reports

CONDITIONS:

The following resources are needed:

- Materials
 - Paints
 - Thinner
 - Color stains
 - Sealers
 - Varnish
- Tools
 - Spray gun
 - Viscosity cup
 - Wrenches
 - Cleaning brushes
- Equipment
 - Spray booth
 - Air compressors
 - Regulator and filter
- Manufacturer's manual
- Work piece standards charts
- Learning materials
- Personal Protective Equipment (PPE)
- Work area
- Learning materials

METHODOLOGIES:

- Group discussion
- Modular or self-paced learning
- Practical exercises

ASSESSMENT METHODS:

- Written test
- Demonstration

LO 3. Perform Good Housekeeping

ASSESSMENT CRITERIA:

1. Work area is cleaned following shop standard operating procedure.
2. Put away procedure is performed according to shop rules.
3. Completion report is prepared and submitted to appropriate personnel following shop rules and practices.

CONTENTS:

- Good housekeeping procedures
- Materials economy
- Preparing reports

CONDITIONS:

The following resources are needed:

- Work area
- Learning materials
- Personal Protective Equipment (PPE)

METHODOLOGIES:

- Group discussion
- Modular or self-paced learning
- Practical exercises

ASSESSMENT METHODS:

- Written test
- Demonstration

UNIT OF COMPETENCY	:	PERFORM BASIC PREVENTIVE MAINTENANCE ON SPRAY EQUIPMENT AND BOOTH
MODULE TITLE	:	PERFORMING BASIC PREVENTIVE MAINTENANCE ON SPRAY EQUIPMENT AND BOOTH
NOMINAL DURATION	:	100 HOURS
MODULE DESCRIPTION	:	This module covers the knowledge, skills, and desirable attitudes required to perform basic preventive maintenance servicing of spray gun system and booth.

SUMMARY OF LEARNING OUTCOMES:

Upon completion of this module, the students should be able to:

- LO 1. identify coating tools and equipment defects.
- LO 2. perform basic preventive maintenance servicing.
- LO 3. prepare maintenance report.

LO 1. Determine Coating Tools and Equipment Defects

ASSESSMENT CRITERIA:

1. Occupational Health and Safety (OHS) requirements are complied with.
2. Personal Protective Equipment (PPE) are selected and used following occupational health and safety requirements.
3. Spray gun equipment and booth minor defects are identified following standard practices.
4. Spray gun equipment and booth major defects are identified and reported following standard operating procedure.

CONTENTS:

- Types of spray gun systems
- OHS regulations
- Spray gun equipment and booth-minor and major defects
- Procedures in inspecting spray gun and spray booth
- Standard practices or shop rules

CONDITIONS:

The following resources are needed:

- Spray guns
- Spray booth
- Learning materials

METHODOLOGIES:

- Group discussion
- Modular or self-paced learning
- Demonstration

ASSESSMENT METHODS:

- Written test
- Demonstration

LO 2. Perform Basic Preventive Maintenance Servicing

ASSESSMENT CRITERIA:

1. Basic hand tools and repair kit are prepared according to job requirements.
2. Basic preventive maintenance servicing for spray gun equipment and booth is performed according to job requirements.
3. Maintenance report is accomplished following shop rules.
4. Maintenance report is submitted to appropriate personnel in accordance with shop rules.

CONTENTS:

- Spray gun equipment and booth-minor and major defects
- Basic preventive maintenance servicing procedure for minor defects
- Basic repair kits
- Procedure in servicing spray guns
- Preparing maintenance report

CONDITIONS:

The following resources are needed:

- Spray guns
- Spray booth
- Repair kit
- Basic hand tools
- Report forms
- Learning materials
- Shop work
- Personal Protective Equipment (PPE)

METHODOLOGIES:

- Group discussion
- Modular or self-paced learning
- Demonstration

ASSESSMENT METHODS:

- Written test
- Demonstration

LO 3. Prepare Maintenance Report

ASSESSMENT CRITERIA:

1. Maintenance report is accomplished following standard operating procedure.
2. Maintenance report is submitted to appropriate personnel following shop standard operating procedure.

CONTENTS:

- Preparing maintenance report

CONDITIONS:

The following resources are needed:

- Maintenance report form

METHODOLOGIES:

- Group discussion
- Modular or self-paced learning
- Demonstration

ASSESSMENT METHODS:

- Observation
- Oral