

College of Micronesia – FSM
P.O. Box 159
Kolonia, Pohnpei

Course Outline Cover Page

Surface Preparation and Finishing Techniques

Course Title

VCF 132

Department and Number

Course Description:

This course is designed to teach the students various ways to prepare timber surfaces ready for the application of finishing materials. It will also introduce commonly available finishing products and assist students to develop the fundamental skills needed to apply various surface coatings to timber products.

Prepared by: Jeff Steel

State: Pohnpei Campus

	Hours per Week	No. Of Weeks	Total Hours	Semester Credits
Lecture	3/6	16/8	48	3
Total Semester Credits:				3

Purpose of Course

Degree Requirement	_____
Degree Elective	_____
Advanced Certificate	_____
Certificate	_____XX_____
Apprenticeship	_____XX_____
Other (Workshop)	_____

Prerequisite Course(s): VCF 104 Introduction to Cabinetmaking/Furniture making

Signature, Chairman, Curriculum Committee

Date Approved by Committee

Signature, President, COM-FSM

Date Approved by the President

COURSE TITLE SURFACE PREPARATION AND FINISHING TECHNIQUES

Nominal Duration 48 Hours/3 Credits

Course Code VCF 132

General Objective On successful completion of this course, students will be able to remove a range of timber defects by being able to identify, select, safely use and maintain a range of tools and products used in the preparation of timber surfaces. This course will also develop the fundamental skills needed to apply various surface coatings to timber products.

Prerequisites

- VCF 104 Intro to Cabinetmaking/Furniture making Before or concurrently.

Learning Outcomes: Upon successful completion of this course the student will be able to:

1. Identify defects in timber surfaces required for finishing.
2. Select, prepare and apply stoppings to timber surfaces to repair nail holes and defects.
3. Identify and describe the use of scrapers, abrasive papers, steam irons and chisels in the repair of defects and surface blemishes.
4. Identify and discuss properties of a range of timber finishing products.
5. Apply a range of clear finishes by various methods to suitably prepared timber surfaces.

Delivery Delivery methods must provide for the demonstration of competence in skills specified in all learning outcomes.

Assessment More than one learning outcome may be assessed at once, by observing the learners ability to apply both specified skills and knowledge.

LEARNING OUTCOME 1

Types of defects and their removal.

VCF 132.1

Identify and remove defects in timber surfaces required for finishing.

Assessment Criteria

132.1.1

Identify defects including:

- Bruises
- Cross sanding marks
- Dirt
- Glue
- Grease
- Machine marks
- Pencil marks
- Scratches
- Shakes
- Knots
- Splits

132.1.2

Remove defects including:

- Bruises
- Cross sanding marks
- Dirt
- Glue
- Grease
- Machine marks
- Pencil marks
- Scratches
- Shakes
- Knots
- Splits

All work practices must ensure that safe practices are adopted.

Conditions

- **Resources**
- **Examples of defects supplied**
- **All tools and equipment required to remove defects supplied**

Assessment Method

Assessment may involve any of the following methods

- **Oral questioning**
- **Written tests**
- **Computer managed testing**
- **Practical exercisers**
- **Active participation in group activity**

LEARNING OUTCOME 2

Stoppings

VCF 132.2

Select, prepare and apply stoppings to timber surfaces to repair nail holes and defects.

Assessment Criteria

132.2.1 Identify and name 3 stoppings used to fill nail holes and minor defects.

132.2.2 Explain the properties of:

- Epoxy/polyester putties
- Wax Stoppings
- Wood putties
- Shellac sticks
- Water putty
- Lacquer putty
- Oil putty

132.2.3 Prepare 3 stoppings commonly used.

132.2.4 Apply 3 stoppings most commonly used.

All work practices must ensure that safe practices are adopted.

Conditions

- **Resources**
- **Examples of stoppings supplied**

Assessment Method

Assessment may involve any of the following:

- **Oral questioning**
- **Written testing**
- **Computer managed testing**
- **Practical exercisers**
- **Active participation in group activity**

LEARNING OUTCOME 3

Identify, describe and perform defect removal from timber surfaces

VCF 132.3

Identify and describe the use of scrapers, abrasive papers, steam iron and chisels in the repair of defects and surface blemishes.

Assessment Criteria

- 132.3.1** Identify silicon carbide, aluminium oxide, garnet and glass paper.
- 132.3.2** Demonstrate the correct use of a timber scraper and chisel to remove blemishes.
- 132.3.3** Explain and demonstrate how a steam iron is used to remove surface depressions.
- 132.3.4** Sand various timber surfaces with 120 to 220 grade of abrasive free of scratches, depressions and blemishes.
- 132.3.5** Explain the quality of surface finish required to achieve an acceptable final finish with stains and clear finishes.

All work practices must ensure that safe practices are adopted.

Conditions

- **Demonstration to the group of learners.**
- **Examples of materials supplied**
- **All tools supplied**

Assessment Method

Assessment methods may involve any of the following methods:

- **Oral questioning**
- **Written tests**
- **Computer managed testing**
- **Practical exercisers.**
- **Active participation in group activity.**

LEARNING OUTCOME 4

Timber Finishing Products

VCF 132. 4

Identify and discuss properties of a range of timber finishing products.

Assessment Criteria

132.4.1 State the properties, advantages and disadvantages of:

- Varnish
- Lacquer
- Oil

132.4.2 State the safety precautions to be taken with the finishes listed above.

All work practices must ensure that safe practices are adopted.

Conditions

Working individually, under close supervision, given:

- Resources
- Tools, materials and equipment
- Manufacturers brochures/literature

Assessment Methods

Assessment may involve any of the following:

- Oral questioning
- Written assignment/test
- Computer managed testing

LEARNING OUTCOME 5

Application of Clear Finishes

VCF 132.5

**Apply a range of clear finishes by various methods
To suitably prepared timber surfaces.**

Assessment Criteria

132.5.1 Test viscosity of product is suitable for brush application.

132.5.2 Apply product with brush ensuring the following:

- ❑ Use the correct pressure
- ❑ Apply coating in direction of grain
- ❑ Overlap each coat to obtain even coverage
- ❑ Remove air bubbles before coating dries
- ❑ Check ends and edges for runs and sags

- ❑ Clean and store all equipment and product in appropriate locations.

132.5.3 List & identify types of spray guns used in the Cabinetmaking/Furniture Making Industry.

All work practices must ensure that safe practices are adopted.

Conditions

- Workplace or simulated workplace conditions
- The learner will be provided with:

Resource material

Learning guide

Tools and equipment

Assessment Method

- **Correct and accurate completion of each practical task performed to the standard/tolerance as specified in the assessment criteria.**

SUGGESTED REFERENCE MATERIALS

- **Hardware and manufacturers manuals**
- **“Finishes and Finishing Techniques: the best of fine woodworking” Taunton Press, 1992, Newtown.**
- **Carpentry and Building Construction, Fifth Edition. (Glencoe, McGraw-Hill)**
- **Library Resources**

RESOURCES

- **Workshop Facilities**
- **Tools of Trade**
- **Demonstration Units**
- **Materials/Lacquer & Varnish.**

GRADES

Final Grades for this course will be assessed based on COM-FSM policy and course requirements at the following percentage rates:

90% - 100%	A – Superior
80% - 89%	B – Above Average
70% - 79%	C – Average
60% - 69%	D – Below Average
0 - 59%	F - Failure

ATTENDANCE

The COM-FSM attendance policy will apply.