

College of Micronesia - FSM
P.O. Box 159
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Course Outline Cover Page

Introduction to Masonry

Course Code: VCT 154

Course Description: This course provides students with knowledge and experience in the preparation of various types of mortar and concrete and the handling and placement of masonry units. Instructions will also include the care and safe use of masonry hand tools and power equipment.

Course Prepared by: Jeff Steel

State: Pohnpei

	Hours per Week	No. Of Weeks	Total Hours	Semester Credits
Lecture/Workshop	<u>3</u>	x <u>16</u>	= <u>48</u>	= <u>3</u>

Purpose of Course:

Degree Requirement.....	
Degree Elective.....	<u>XX</u>
Certificate	
Apprenticeship	<u>XX</u>
Remedial.....	
Other (workshop).....	<u>XX</u>

Prerequisite Course(s): VSP 153a Industrial Safety

Signature, Chairperson, Curriculum Committee

Date Approved by Committee

Signature, President, COM-FSM

Date Approved by President

COURSE TITLE	Introduction to Masonry
Nominal Duration	36 Hours/3 Credits
General Objectives:	This course provides students with knowledge and experience in the preparation of various types of mortar and concrete and the handling and placement of masonry units. Instructions will also include the care and safe use of masonry hand tools and power equipment.
Prerequisites	VSP 153a Industrial Safety
Specific Objectives:	<p>By the completion of this course the student will be able to:</p> <ol style="list-style-type: none"> 1. Understand and apply the principles of masonry construction. 2. Understand the purpose of mortar and its composition. 3. Competently use hand tools. 4. Identify types of brick and block bonds. 5. Construct a simple wall.
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.

<p>STUDENTS SHOULD BE MADE AWARE OF OCCUPATIONAL HEALTH AND SAFETY ISSUES IN ALL SITUATIONS AND BE EXPECTED TO DEMONSTRATE SAFE WORKING PRACTICES AT ALL TIMES.</p>
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Learning Outcome 1

Principles of Masonry Construction

VCT 154.1

Understand and apply the principles of masonry construction

Assessment Criteria

- 154.1.1** Recognize and observe Occupational Safety and Health requirements
- 154.1.2** Recognize and describe the various types of Masonry
- 154.1.3** Explain common terms to describe masonry
- 154.1.4** Identify the types of masonry (eg: Concrete Blocks and bricks)
- 154.1.5** Identify and describe the tools and equipment Required

All work practices must ensure that safe practices are adopted.

Conditions

Working in groups given:

- **Resources/Industry Specifications**
- **Verbal and Video presentation to the group of learners**
- **Workplace visits to study recent and emerging trends that are current to the industry.**

Assessment Method

Assessment may involve any of the following methods

- **Oral questioning**
- **Written tests**
- **Computer managed testing**
- **Individual written assignments**
- **Active participation in group activity**

Learning Outcome 2

Mortars

VCT 154.2

Understand the purpose of mortar and its composition.

Assessment Criteria

- 154.2.1 Describe the purpose of mortar.**
- 154.2.2 Explain the composition of mortar.**
- 154.2.3 Describe the various types of mortar
And explain their uses.**
- 154.2.4 Describe how mortar is mixed.**

All work practices must ensure that safe practices are adopted.

Conditions

Working in groups given:

- Resources**
- Verbal and Video presentation to the group of learners**
- Demonstration**

Assessment Methods

Assessment may involve any of the following methods

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

Learning Outcome 3

Hand Tools

VCT 154.3

Competently use hand tools

Assessment Criteria

- | | |
|----------------|---|
| 154.3.1 | Select the correct hand tools to construct a simple straight wall. |
| 154.3.2 | Demonstrate the correct use of measuring and leveling tools. |
| 154.3.3 | Demonstrate the correct and safe use of a bricklayer's trowel for applying and spreading mortar. |
| 154.3.4 | Demonstrate the correct and safe use of hand tools to cut bricks and blocks |

All work practices must ensure that safe practices are adopted.

Conditions

Working in groups given:

- **Resources**
- **Verbal and Video presentation to the group of learners**
- **Demonstration.**

Assessment Methods

Assessment may involve any of the following methods

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

Learning Outcome 4

Masonry Bonds

VCT 154.4

Identify types of brick and block bonds

Assessment Criteria

- 154.4.1 Explain the need for bonding bricks and blocks.
- 154.4.2 Describe the various bonds and their uses.
- 154.4.3 Describe the requirements of horizontal bed joints and vertical perpend.
- 154.4.4 Demonstrate the application of mortar to bricks/blocks to form bed joints and perpend.

All work practices must ensure that safe practices are adopted.

Conditions

Working in groups given:

- Resources
- Verbal and video presentation to the group of learners
- Demonstration

Assessment Methods

Assessment may involve any of the following methods

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

Learning Outcome 5

Constructing a Wall

VCT 154.5

Construct a Simple Wall

Assessment Criteria

- 154.5.1 Set out the position of wall using “profiles”
- 154.5.2 Assemble all necessary tools and equipment.
- 154.5.3 Arrange bricks/blocks adjacent to work area.
- 154.5.4 Mix suitable mortar.
- 154.5.5 Demonstrate the laying of the bed course.
- 154.5.6 Demonstrate the laying of subsequent courses, using an appropriate bond, so that they are both horizontal and vertical.
- 154.5.7 Check that brickwork/blockwork is in line and to the required height with uniform joints.
- 154.5.8 Clean all tools and equipment

Conditions

Working in groups given:

- Resources
- Verbal and video presentation to the group of learners
- Demonstration

Assessment Methods

Assessment may involve any of the following methods

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

SUGGESTED REFERENCE MATERIALS

- **Manufacturers manuals**

- Level Three, Wheels of Learning, NCCER. 2000
Prentice-Hall, Inc Upper Saddle River, New Jersey.

Modern Masonry, Clois E. Kicklighter, 1991

- **Audio-Visual:**
Films:

- **Laying blocks /bricks.**

RESOURCES

- **Workshop Facilities**
- **Tools of Trade**
- **Bricks/Blocks/mortar components for Demonstration**
- **Video/TV Set**
- **Overhead Projector**

GRADES

Final grades for this course will be assessed based on meeting the 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