

National Certificate in Building Construction

Semester 1 Module Notes – Bricklaying

Module Title:

Bricklaying

Programme:

National Certificate in Building Construction (NCBC) – Uganda

Semester: 1

Duration:

16 Weeks (Approx. 240 hours)

Module Learning Outcomes

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

1. Identify and select appropriate tools and equipment used in bricklaying.
 2. Make cost estimates for bricklaying materials.
 3. Mould bricks and blocks.
 4. Prepare and use bricklaying materials correctly.
 5. Draw and interpret building drawings.
 6. Lay, plumb, square, and level bricks and blocks during the construction of buildings.
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Unit 1: Tools and Equipment in Bricklaying

This unit introduces the hand tools and equipment used in bricklaying.

Examples include:

- Trowels
- Spirit levels
- Plumb bobs
- Masonry hammers
- Line blocks and builders' lines
- Jointing tools
- Measuring tapes

Trainees will learn how to identify tools, assess their condition, and handle them safely on site.

Unit 2: Estimation of Bricklaying Materials

This unit covers material estimation for simple wall construction.

Key topics include:

- Calculating quantities of bricks/blocks
 - Determining mortar mix ratios
 - Costing cement, sand, and water usage
 - Preparing basic Bills of Quantities (BOQ)
 - Using rate analysis for budgeting small projects
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Unit 3: Brick and Block Moulding

Focuses on the practical process of making bricks and blocks.

Trainees will:

- Identify suitable soils and binding materials
 - Learn traditional and mechanical moulding techniques
 - Understand drying and curing processes
 - Explore environmental considerations in production
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Unit 4: Preparation and Use of Bricklaying Materials

This unit explains:

- The correct proportions and mixing of mortar
 - Properties of cement, lime, sand, and water
 - Manual and mechanical mixing
 - Mortar workability and setting time
 - Storing and protecting materials on site
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Unit 5: Drawing and Interpreting Building Plans

Trainees will gain skills in interpreting construction drawings:

- Reading scale drawings

- Understanding floor plans, elevations, and sections
 - Identifying common symbols used in Ugandan building drawings
 - Introduction to basic freehand sketching and scaled drawing
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Unit 6: Laying, Plumbing, Squaring, and Levelling

Practical hands-on experience in:

- Preparing the foundation and leveling base
 - Establishing corners and wall alignment
 - Laying bricks and blocks in stretcher, header, English, and Flemish bonds
 - Using spirit levels and plumb lines
 - Checking dimensions and squareness
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Assessment Methods

- Continuous practical assessments
 - Quizzes and short written tests
 - Drawing interpretation assignments
 - Final practical wall-building project
 - Peer reviews and instructor feedback
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Appendices

- Standard mortar mix ratio tables
- Brick bonds diagram guide
- Site safety checklist
- Tool and equipment identification sheet