

ARCHITECTURAL COST AND ESTIMATES

UNIT CODE: CON/CU/ARC/CR/04/6/A

Relationship to Occupational Standards

This unit addresses the unit of competency: Cost architectural projects

Duration of Unit: 100 hours

Unit Description

This unit describes the competencies required to take off building components, abstract take off data, work up dimensions, prepare schedule of materials, prepare bill of quantities/ estimates, schedules and valuations and compute project costs.

Summary of Learning Outcomes

1. Take off building quantities
2. Abstract take off data
3. Work up dimensions
4. Prepare bill of quantities/ estimates
5. Prepare schedule of materials
6. Prepare valuations of work done
7. Compute project variation costs

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Take off building quantities	<ul style="list-style-type: none">• Principles of measurement• Standard methods of measurement of building and associated civil works (SMM) and civil engineering standard method of measurements CESMM)• Preparation of dimension sheet/paper• Preparation of list of items to measure	<ul style="list-style-type: none">• Observation• Oral questioning• Written tests/ worksheets• Projects• practical assessments

	<ul style="list-style-type: none"> • Computing building/civil works quantities • Booking of dimensions • Booked items description 	
2. Abstract take off data	<ul style="list-style-type: none"> • Abstracting sheet <ul style="list-style-type: none"> • Preparation of abstracting sheet • Transfer of booked quantities • Running through dimensions <ul style="list-style-type: none"> • Symbols used in running through dimensions ☐ Casting Up Dimensions <ul style="list-style-type: none"> • Symbols Used in casting up and running through 	<ul style="list-style-type: none"> • Observation • Oral questioning • Written tests • Projects • practical assessments
3. Work up dimensions	<ul style="list-style-type: none"> • Timesing of dimensions • Squaring of booked dimensions • Computation in the abstract sheets 	<ul style="list-style-type: none"> • Observation • Oral questioning • Written tests • Projects practical assessments
4. Prepare bill of quantities/ estimates	<ul style="list-style-type: none"> • Principles of billing • Billing paper/sheet <ul style="list-style-type: none"> • Preparation of billing sheet/paper • Transfer of booked quantities • Price bill of quantities • Method statement 	<ul style="list-style-type: none"> • Observation • Oral questioning • Written tests • Projects • practical assessments
5. Prepare schedule of materials	<ul style="list-style-type: none"> • Types of materials and equipment • Quantification of building materials on a standard schedule • Quoted rates 	<ul style="list-style-type: none"> • Observation • Oral questioning • Written tests • Projects • practical assessments

6. Prepare valuations of work done	<ul style="list-style-type: none"> • Valuation of Work done • Preparation of Payment certificates • Valuation of variations/ appraisals/ modifications 	<ul style="list-style-type: none"> • Observation • Oral questioning • Written tests • Projects • practical assessments
7. Compute project costs	<ul style="list-style-type: none"> • Unit rates • Building up unit rates • Computation of Total cost • Computation of variation cost. • Preparation of change order 	<ul style="list-style-type: none"> • Observation • Oral questioning • Written tests • Projects • practical assessments

Suggested Methods of Instruction

- Demonstration by trainer
- Practical work by trainee
- Demonstration videos
- Projects
- Group discussions

Recommended Resources

- Dimension sheets
- Abstract sheets
- Billing sheets
- Measuring tools
- Computers
- Office equipment
- Calculators
- Computer software
- CESSM/SMM
- Stationer
- Dust coat
- First aid kit