



Republic of Rwanda
Ministry of Education



RTB | RWANDA
TVET BOARD

INDCE301

COST ESTIMATION

ESTIMATE COST

Competence

RQF Level: 3

Learning Hours



40

Credits: 4

Sector: Construction and Building Service

Trade: Interior Design

Module Type: Specific

Curriculum: CBSIND 3001- TVET Certificate III in Interior Design

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1200

Purpose statement	This module describes the skills, knowledge and attitude, required to prepare the bills of quantities of an interior design project. After completing this module the learners will be able to prepare the right cost estimate of the project by elaborating technical specifications of the design concept, materials, and estimate the cost of the work.				
Learning assumed to be in place	Safety, Health and environment at workplace; Develop Technical Drawing; Project Presentation; Demonstrate knowledge of interior design materials; Tiling; Color Concept; Interior carpentry; Soft furnishing; Molding and Skirting.				
Delivery modality	Training delivery	100%	Assessment	Total 100%	
	Theoretical content	30%	Formative assessment	30 %	
	Practical work:	70%		70%	50%
	<ul style="list-style-type: none"> Group project and presentation 20% Individual project /Work 50% 				
				Summative Assessment	50%

Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
1. Interpret drawings	1.1. Drawings are properly interpreted according to the project type
	1.2. Design elements are properly described according to their types
	1.3. Technical specifications are properly interpreted according to drawings, site and project types
	1.4. Materials' data collection are appropriately done according to the type of the project
2. Analyse costs	2.2. Precise and quantities are correctly calculated according to the drawings' dimensions and taken measurements
	2.2. Types of estimates are properly Identified according to the available data
	2.3. Estimation methods are appropriately applied according to the project work and standards methods of measurement (SMM)
	2.4. Direct cost is accurately calculated according to the project types

	2.5. Indirect cost is accurately calculated in accordance with the project types
3. Elaborate bill of quantity	3.1. Title elements of BOQ are correctly identified and defined and aligned with respect to the type of BOQ
	3.2. Items are correctly described and categorized with respect to their types
	3.3. Quantities and cost are accurately recorded according to elements type
	3.4. Interests, tax, and contingency cost are appropriately recorded according to analyzed quantities and costs
	3.5. Overall summation is well calculated according to standards

Course content

Learning outcomes	At the end of the module the learner will be able to: <ul style="list-style-type: none"> • Interpret drawings • Analyses costs • Elaborate bill of quantity
Learning outcome 1: Interpret drawings	Learning hours: 10

Indicative content

<ul style="list-style-type: none"> • Identify types of drawing <ul style="list-style-type: none"> ✓ Sketches drawing ✓ Architecture/interior drawings (Plan view, Section view, elevation...) ✓ 2D and 3D drawings ✓ Detailed drawings • Identify dimension value <ul style="list-style-type: none"> ✓ Measurement value ✓ Unit of measurement ✓ Types of dimension lines (Extension lines, Dimension lines, center lines...) • Elements of drawing <ul style="list-style-type: none"> ✓ Line ✓ Tones

- ✓ Color
- ✓ Labelling
- **Design Elements of interior design project**
- ✓ Space,
- ✓ Form and shape,
- ✓ Color,
- ✓ Pattern,
- ✓ Texture,
- ✓ Light...
- **Technical specifications**
- ✓ Labels
- ✓ Notes
- ✓ Doors and windows schedules
- ✓ Materials schedules
- **Materials' data**
- ✓ Materials types
- ✓ Materials source
- ✓ Materials specifications
- ✓ Materials Rates

Resources required for the learning outcome

Equipment	Computer, projector
Materials	Printout documents, Pens, Papers...
Tools	Calculator, Drawings, notebook, Rulers, Echelograph...
Facilitation techniques	<ul style="list-style-type: none"> • Individual and group work • Individualized • Trainer guided • Group discussion
Formative assessment methods	<ul style="list-style-type: none"> • Written assessment • Oral presentation

Learning outcome 2: Analyze costs	Learning hours: 20
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Indicative content

- **Types of estimates**
 - ✓ Detailed Estimates
 - ✓ Approximate Estimates
- **Quantity calculation methods**
 - ✓ Volume method
 - ✓ weight method
- **Direct costs**
 - ✓ Direct labor
 - ✓ Direct materials
 - ✓ Manufacturing supplies
 - ✓ Wages for the production staff
 - ✓ Fuel or power consumption
 - ✓ Transport cost
- **Indirect costs**
 - ✓ Rent cost
 - ✓ Insurance cost
 - ✓ Advertising cost
 - ✓ Marketing cost
 - ✓ Profit for the contractor
 - ✓ Overheads & establishment expenses

Resources required for the indicative content
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Equipment	Computer, projector
Materials	Printout document or drawings, Pens, Papers, notebook
Tools	Calculator , Ruler,
Facilitation techniques	<ul style="list-style-type: none"> • Demonstration and simulation • Individual and group work • Practical exercise • Individualized • Trainer guided • Group discussion
Formative assessment methods	<ul style="list-style-type: none"> • Written assessment • Oral presentation

	<ul style="list-style-type: none"> • Performance assessment • Product based assessment • Project based assessment
Learning outcome 3: Elaborate bill of quantity	Learning hours: 10
Indicative content	
<ul style="list-style-type: none"> • Content of a Bill of quantity <ul style="list-style-type: none"> ✓ Sequence no ✓ Item description ✓ Unit of measurement ✓ Quantities ✓ Unit price ✓ Total price ✓ Indirect cost (Tax, interest, overheads...) ✓ Contingency cost ✓ Overall cost 	
Resources required for the indicative content	
Equipment	Computer, projector
Materials	Printout documents, Pens, Papers,
Tools	Calculator, Drawings, notebook, Rulers, Echelograph.
Facilitation techniques	<ul style="list-style-type: none"> • Individual and group work • Individualized • Trainer guided • Group discussion
Formative assessment methods	<ul style="list-style-type: none"> • Written assessment • Oral presentation

Integrated situation

The owner of INZOZI hotel has a design to refurbish 2 single bedrooms in her hotel in order to fit the modern design style. As an interior design technician, you are required to produce the bill of quantity of that refurbishment by following the given design and specifications.

The size of the each bedroom is 4m*4m.

It has one single wooden bed (190cm*140cm), 2 chairs and a table on the balcony.

It also has 1 wide window (2m*2.5m) and one double door (2m*2.5m) heading to balcony.

You are required to produce the task within 4 Hours.

NB: All the materials are available at the site.

Resources

Tools	Calculator, pens, pencils, drawing set, rulers, Echelograph
Equipment	Computer
Materials	A4 papers

Assessable outcomes	Assessment criteria (Based on performance criteria)	Indicators	Observation		Marks allocation
			Yes	No	
Learning outcome 1: Interpret drawings (25%)	1. Identify types of drawing	Ind1: Plan view is well identified			2
		Ind2: Elevation views are well identified			2
		Ind3: Section views are well identified			2
		Ind4: 2D and 3D drawings are well identified			1
	2. Identify Types of dimensions	Ind1: Linear dimensions are well identified			1
		Ind2: Area dimensions are well identified			1
		Ind3: Angular dimensions are well identified			1
	3. Identify design elements	Ind1: Spaces are well identified			2
		Ind2: Form and shapes are well identified			2
		Ind3: Colors are well identified			2

		Ind4: Patterns are well identified			2
		Ind5: Texture are well identified			2
		Lights are well identified			2
	3. Identify elements of drawing	Ind 1: Lines are well Interpreted			1
		Ind 2: Tones are well interpreted			1
		Ind 3: Color are well interpreted			1
Learning outcome 2: Analyse costs (50%)	1. Calculate Direct cost	Ind 1: Cost of materials are well calculated			12
		Ind 2: Cost of labor are well calculated			9
		Ind 3: Cost of transport are well calculated			9
	2. Calculate Indirect cost	Ind 1: Tax Cost is well calculated			6
		Ind 2: Interest Cost are well calculated			7
		Ind 3: Overhead Cost are well calculated			7
Learning outcome 3: Elaborate	1. Identify elements of BOQ	Ind 1: Sequence no is well identified			2
		Ind 2: Item description is perfectly done			6

bill of quantity (25%)		Ind 3: Unit of measurement is well identified			2
		Ind 4: Quantities are well identified			2
		Ind 5: Unit price is well identified			2
		Ind 6: Total price is well identified			2
	2. Record Calculated costs	Ind 1: Direct cost are well recorded			2
		Ind 2: Indirect cost are well recorded			2
		Ind 3: Overhead cost are well recorded			2
Ind 4: Overall cost is well calculated				2	
Total marks					100
Percentage Weightage					100%
Minimum Passing line % (Aggregate): 70%					

Reference books:

1. Ivor, H. Seeley. 2008 "Civil Engineering quantities 5th Edition". Nottingham
2. Ivor H. Seeley. 2019 "Advanced Building Measurements 3rd Edition". Nottingham
3. Ivor H. Seely.2003"Quantity Surveying Practice 2nd Edition"
4. Emmanuel C. Oborch, Agelaolufolai.2017. "Advance Measurement of building Works"
5. B.N.Dutta, "Estimating