

STRUCTURAL DESIGN AND ANALYSIS

UNIT CODE: CON/CU/CET/CC/03/6/A

Relationship to Occupational Standards

This unit addresses the unit of competency: Perform Structural Design and Analysis

Duration of Unit: 70 Hours

Unit Description

This Unit describes the competencies required to Perform Structural Design and Analysis. It involves analysing structural designs, designing structural elements, preparing structural drawings interpreting structural drawings and applying structural drawings

Summary of Learning Outcomes

- 1 Analyse structural elements
- 2 Design structural elements
- 3 Prepare structural drawings
- 4 Interpret structural drawings
- 5 Apply and use structural drawings

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1 Analyse structural elements	<ul style="list-style-type: none">• Analyses of structural elements• Preparation of sketches• Determination of maximum moments• Structural designs	<ul style="list-style-type: none">• Written tests• Oral• Practical/Projects
2 Design structural elements	<ul style="list-style-type: none">• Structural designs• Methods of designs• Design codes• Design tools and equipment• Structural elements designs• Schedules for different elements	<ul style="list-style-type: none">• Written tests• Oral• Practical/Projects
3 Prepare structural drawings	<ul style="list-style-type: none">• Drawing tools and equipment	<ul style="list-style-type: none">• Written tests• Oral

	<ul style="list-style-type: none"> • Methods of drawing • Standard structural drawings • Preparation of material schedules 	<ul style="list-style-type: none"> • Practical/Projects
4 Interpret structural drawings	<ul style="list-style-type: none"> • Identification of project • Structural drawings • Steel and material schedules preparation • Standard construction procedures 	<ul style="list-style-type: none"> • Written tests • Oral • Practical/Projects
5 Apply and use structural drawings	<ul style="list-style-type: none"> • Interpretation of drawings • Statutory requirements • Foundation engineering • Preparation of structural elements • Development of working drawing, steel schedules and materials schedules 	<ul style="list-style-type: none"> • Written tests • Oral • Practical/Projects

Suggested Methods of Instruction

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

Recommended Resources

- Computers
- Office equipment
- Calculators
- Scale rule
- Computer software
- Design codes (British standards)
- Stationery
- Standard design manuals

- Dust coat
- First aid kit

easytvvet.com