

Building Technology - National Diploma (ND)

SIWES and Project

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Supervised Industrial Work Experience Scheme

Course: Supervised Industrial Work Experience Scheme		Course Code: SIW 200	Contact Hours:
Course Specification: Theoretical Content			
General Objective 1.0: Understand the organisational structure In his/her place of attachment.			
Week	Specific Learning Outcome	Teachers Activities	Resources
	1.1 Identify the various departments/units of the organization. 1.2 Identify the functions of the various units or departments in the organization. 1.3 Identify the relationships between the different units within the organisation.		
General Objective 2.0: Know the general safety precautions in the construction industry			
Week	Specific Learning Outcome	Teachers Activities	Resources
	2.1 State the safety precautions required on a construction site. 2.2 Apply general safety regulations to work situation such as: <ul style="list-style-type: none"> a. Personal safety. b. Safety of other workers. c. Clothing. d. Cleanliness of work environment. e. Equipment/tools on the construction site. 		
General Objective 3.0: Understand the various processes of site Preparation			
Week	Specific Learning Outcome	Teachers Activities	Resources
	3.1 Interpret the working drawings either by sketching demonstration or any other method as the case may be. 3.2 Conduct the soil investigation by approved methods such as trial holes, boreholes. 3.3 Perform on site and laboratory tests. 3.4 Carry out site cleaning and levelling using appropriate equipment. 3.5 Set out building using builder's square or theodolite methods.		

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General Objective 4.0: Understand the methods of setting out of Buildings			
Week	Specific Learning Outcome	Teachers Activities	Resources
	4.1 Interpret building drawings. 4.2 Make working drawings from building designs. 4.3 Dig trenches in accordance with the set out lines for even and uneven grounds. 4.4 Establish the final level of the concrete footing using levelling pegs and spirit level.		
General Objective 4.0: Know the techniques of concrete Production			
Week	Specific Learning Outcome	Teachers Activities	Resources
	5.1 Batch aggregate by volume and by mass. 5.2 Measure water in correct ratio to volume or mass. 5.3 Measure cement in correct proportion to the volume or mass of the concrete. 5.4 Mix out self by hand and machine. 5.5 Carry out self and workability tests on aggregates. 5.6 Transport, place, compact and sieve concrete using appropriate tools and equipment. 5.7 Conduct crushing strength and rebound tests on hardened concrete.		
General Objective 6.0: Understand the construction of concrete and block walls and general roofing.			
Week	Specific Learning Outcome	Teachers Activities	Resources
	Concrete and Block Walls. 6.1 Build block walls using stretcher and header boards ensuring correct alignment. 6.2 Erect form work for concrete works. 6.3 Assemble a roof truss on site with the help of the working drawing. 6.4 Fix the roof truss in 6.3 above on the given building. 6.5 Apply appropriate roof coverings.		

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General Objective 7.0: Understand the construction and fixing of doors and windows.			
Week	Specific Learning Outcome	Teachers Activities	Resources
	7.1 Construct doors and windows with appropriate fixing devices. 7.2 Construct doors and windows with machines.		
General Objective 8.0: Understand the construction of ground and upper floors			
Week	Specific Learning Outcome	Teachers Activities	Resources
	8.1 Fill and ram laterite. 8.2 Compact hard core. 8.3 Place oversite concrete in accordance to specifications. 8.4 Construct and erect form work for upper floors. 8.5 Place reinforcement according to specifications. 8.6 Place concrete on form work according to specifications.		
General Objective 9.0: Understand the use of timber and metal Scaffolding.			
Week	Specific Learning Outcome	Teachers Activities	Resources
	9.1 Provide solid base for scaffolding. 9.2 Assemble scaffolding ensuring correct alignment and grid, in compliance with building regulations as they affect the use of scaffolds. 9.3 Test scaffoldings at required intervals. 9.4 Dismantle scaffoldings appropriately after use.		
General Objective 10.0: Know lay-out of site, materials and connections.			
Week	Specific Learning Outcome	Teachers Activities	Resources
	10.1 Plan the lay-out of site. 10.2 Establish positions of public utility connection. 10.3 Identify materials necessary for connection. 10.4 Connect temporary services to site. 10.5 Test temporary connections.		
11.0 Know the various materials for finishes and Their application.			
Week	Specific Learning Outcome	Teachers Activities	Resources
	11.1 Test the various materials for suitability for finishes e.g. silk test grading. 11.2 Carry out various types of finishes in the building. 11.3 Test for defects in application.		

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General Objective 12.0: Understand different types of fittings and Furniture installation			
Week	Specific Learning Outcome	Teachers Activities	Resources
	12.1 Show the correct usage and application of various types of fittings. 12.2 Install various fittings (doors, windows). 12.3 Maintain and effect repairs to faulty fittings.		
General Objective 13.0: Know the necessary practical skill in plumbing Works and installation of sanitary appliances.			
Week	Specific Learning Outcome	Teachers Activities	Resources
	13.1 Interpret correctly service drawings. 13.2 Carry plumbing and sanitary installations Effectively. 13.3 Test for defects. 13.4 Maintain plumbing and sanitary I installations.		
General Objective 14.0: Understand the installation of air conditioning			
Week	Specific Learning Outcome	Teachers Activities	Resources
	14.1 Carry out installation of air conditioners in accordance with the general regulations.		
General Objective 15.0: Acquire basic skills in external works			
Week	Specific Learning Outcome	Teachers Activities	Resources
	15.1 Interpret drawings on external works. 15.2 Set out external drainage. 15.3 Install external drainage. 15.4 Test for defects in external drainage e.g. smoke test. 15.5 Maintain external drainage installations. 15.6 Make simple landscape design. 15.7 Prepare ground for landscaping. 15.8 Maintain landscaping.		

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General Objective 16.0: Know how to read and interpret drawings For both residential and office buildings			
Week	Specific Learning Outcome	Teachers Activities	Resources
	<p>16.1 Evaluate the convention being adopted in folding storing and retrieval of drawings.</p> <p>16.2 Interpret production, drawings, i.e. plans, elevations, sections, and details drawings.</p> <p>16.3 Interpret simple Engineering drawings, e.g plans sections, and details drawings.</p> <p>16.4 Make the drawings of an architectural project from designs produced by and architect.</p>		
General Objective 17.0: Understand the various construction processes			
Week	Specific Learning Outcome	Teachers Activities	Resources
	<p>17.1 Evaluate the various operations and how they are being sequenced.</p> <p>17.2 Identify the various operatives involved in the construction processes, participating where feasible.</p> <p>17.3 Evaluate the economy in the use of labour, material and equipment with high initial costs especially for repetitive works such as scaffolding in metal forms as opposed to timber forms.</p>		
General Objective 18.0: Understand the post-contract relationship among The various professionals, contractor The client with regard to site meetings and Valuations.			
Week	Specific Learning Outcome	Teachers Activities	Resources
	<p>18.1 Distinguish the parties to the contract.</p> <p>18.2 Explain the relationship between the professional Quantity Surveyor and other professionals like Architects, Engineering, Clerk of Works, etc. and state their responsibilities on the site.</p> <p>18.3 Write a valuation report and valuation certificate for a given project stating which professionals are responsible for either.</p> <p>18.4 State the strength of a payment certificate with regards to the contractor's capability in collecting payment from the client.</p>		

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General Objective 19.0: Know the mechanisms of site administration And the safety health and welfare regulations Operative at the site.			
Week	Specific Learning Outcome	Teachers Activities	Resources
	19.1 Illustrate the organisational chart of the site 19.2 Describe the relationship between the various construction team of the company. 19.3 Identify the placement of accident prevention signs including provisions of lighting, telephone etc, on site 19.4 Identify the establishment of first aid boxes and their location on site. 19.5 Identify the type of unions that exist on the site 19.6 Evaluate the social services provided by the contractor to his staff 19.7 State the grievances procedure in the construction firm.		
General Objective 20.0: Know the methods of ordering receiving Requisitioning and checking of materials on site			
Week	Specific Learning Outcome	Teachers Activities	Resources
	20.1 Evaluate the procedure in ordering materials for construction works. 20.2 Check material invoices on delivery 20.3 Issue out materials from site store, following appropriate procedures.		
General Objective 21.0: General Objective: 21.0 Know how to produce technical reports with Bar charts of all activities undertaken during The Supervised Industrial Work Experience Scheme.			
Week	Specific Learning Outcome	Teachers Activities	Resources
	21.1 Record all the activities that are carried out each day (each student should possess “an industrial attachment note book” to do this). 21.2 Record the weekly summary of his/her activities in his/her log book and have it certified by his industry based supervisor. 21.3 Record graphically his weekly activities using bar charts e.g. 21.4 Write a monthly summary of his/her activities for his/her supervising lecturers comments in his/her log book. 21.5 Write a comprehensive technical end-of industrial attachment report.	<ul style="list-style-type: none"> • Understanding. • Read and Interpret. 	

Project

Course: Project (ND)		Course Code: 200	Contact Hours: 0-0-4
Course Specification: Theoretical Content			
General Objective 1.0: Know how to carry out a project			
Week	Specific Learning Outcome	Teachers Activities	Resources
1 - 15	1.1 Define Project 1.2 Explain the types of project 1.3 Explain the importance of each type of project 1.4 Select a project topic relating to Building/Quantity Survey using design and production 1.5 Develop the literature of the topic 1.6 Prepare the project schedule 1.7 Investigate the problems 1.8 Assess the result deciding further work necessary to carry the problems to logical conclusion. 1.9 Prepare clear report stating the aims and objectives using design and other criteria under supervision of the lecturer or advisers. 1.10 Development design for production. 1.11 Develop costing and estimating models 1.12 Relate the aims, objectives, design and criteria 1.13 Develop new models if any 1.14 Assemble the design and frame where necessary. 1.15 Draw up conclusion 1.16 Types the report to an acceptable standard 1.17 Bind the report 1.18 Present the report under the supervision of the lecturer or supervisor to accredited audience		
Assessment: Course work- 0%; Course test - 0%; Practical - 0%; Project Report - 100% Competency: The student should be able to carryout simple site work and produce a report of his activity.			