STUDENT INDUSTRIAL WORKING EXPERIENCE SHCEME

A TECHNICAL REPORT OF WORK DONE

HELD AT

LAMARK PLANNERS AND BUILDERS,

KENZOW COMPLEX OPP A DIVISION,

ILORIN KWARA STATE.

PRESENTED BY

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ND/20/ARC/FT/084

IN PARTIAL FULFILLMENT OF THE NATIONAL DIPLOMA of KWARA STATE POLYTECHNIC

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURAL TECHNOLOGY.

INSITUTE OF ENVIRONMENTAL STUDIES, KWARA STATE POLYTECHNIC ILORIN.

PREFACE

This technical report has been written in partial fulfilment of the requirement of the award of diploma(ND) in Architectural Technology,. Institute of environmental studies, Kwara state polytechnic, Ilorin.

It's based on the experience gained during the four months industrial attachment at **LAMARK PLANNERS AND BUILDERS**.

The report contains all the report of the experience gained in the Industrial attachment and the other aspects of my profession.

DEDICATION

This report is dedicated to almighty ALLAH for giving me the knowledge and understanding and giving me the grace of getting through with the four month industrial training

It is equally dedicated to my parent in person of ***MR. AND MRS. JIMOH and*** my friends and family.

ACKNOWLEDGEMENT

I wish to express my profound gratitude to almighty ALLAH for the successful completion of the four month industrial training programme.

I wish to express my indebtedness to my lovely and caring parent in person of **MR AND MRS. JIMOH** for their immeasurable financial and moral support towards the success of the programme. May ALMIGHTY ALLAH give you long life to reap the fruit of their labour (Amen).

I also commend the effort of C.E.O of Lamark Planners and Builders and the entire staff of the company, for their support both financial and moral support in all my academic activities, may ALMIGHTY ALLAH grease to their elbow for the rest their life with happiness and make them reap the fruit of their labour(Amen).

My sincere thanks go to my sisters and brother and the entire member of my family for their encouragement. May Allah put you through in life and in whatever you lay your hand on (Amen).

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CHAPTER ONE

1.0 INTRODUCTION

Student industrial working experience scheme (SIWES) was introduced to Nigeria universities, polytechnic and college of technology in 1976 by the federal government of Nigeria to enhance the student ability on practical aspect of their course. In aim to meet up with the standard requirement of their course of study.

1.1 Definition of SIWES

As the name implies student industrial work experience scheme (SIWES), it is a programme that is organized by the federal government for the student to undergo, usually for four month practical work experience for field work of their course of study.

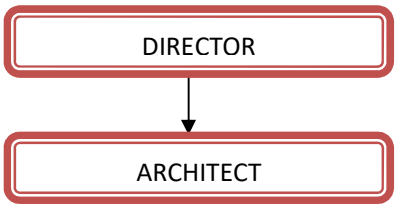
1.2 Goals and Objectives of SIWES

- To prepare student for future challenges.
- To gain experience in field of study.
- To have practical oriented in field of study.
- To know more about architectural design.

CHAPTER TWO

ORGANIZATIONAL CHART AND HISTORY

2.1 ORGANIZATION CHAT



2.2 MAJOR ACTIVITIES OF THE ORGANIZATION

- Production Of Architectural Designs
- Supervision of construction

2.3 UNIT FUNCTION

Architectural unit

1. This is the main unit of an architectural firm, which are in charge of collecting information and getting data from client and carry out site investigation to produce architectural working drawing.
2. The unit carry out proper supervision and monitoring of construction of building.
3. The unit serve as client's representative to planning authority, on client demand.

CHAPTER THREE

3.1 REVIT

Autodesk Revit is a building information modelling software for architects, landscape architects, structural engineers, mechanical, electrical, and plumbing (MEP) engineers, designers and contractors. The original software was developed by Charles River Software, founded in 1997, renamed Revit Technology Corporation in 2000, and acquired by Autodesk in 2002. The software allows users to design a building and structure and its components in 3D, annotate the model with 2D drafting elements, and access building information from the building model's database.[1] Revit is 4D building information modeling capable with tools to plan and track various stages in the building's lifecycle, from concept to construction and later maintenance and/or CL COLUMN; STRUCTURAL COLUMN / Adds a vertical load-bearing element to the building model.

SHORTCUT IN REVIT

CM PLACE A COMPONENT / Place a component.

DR DOOR / Adds a door to the building model.

GR GRID / Places column grid lines in the building design.

LL LEVEL / Places a level in view.

RM ROOM / Creates a room bounded by model elements and separation lines.

RP REFERENCE PLANE / Creates a reference plane using drawing tools.

RT TAG ROOM; ROOM TAG / Tags the selected room.

SB FLOOR:FLOOR: STRUCTURAL / Adds structural floors to a building model.

WA WALL; WALL:WALL: ARCHITECTURAL / Creates a non-bearing wall or a structural wall in the building model.

WN WINDOW / Places a window in a wall or skylight in a roof.

COLLABORATE

ER EDITING REQUESTS / Displays a list of usersí requests to borrow elements in worksets, as well as pending requests.

RL or RW RELOAD LATEST / Loads the latest version of the central model.

CONTEXT MENU

MP MOVE TO PROJECT / Move the model relative to a shared coordinate system.

R3 DEFINE A NEW CENTER OF ROTATION / Relocates center of rotation when rotating elements.

RA RESTORE ALL EXCLUDED / Restores all excluded parts and elements.

RB RESTORE EXCLUDED MEMBER / Restores an excluded member.

RC REPEAT LAST COMMAND / Repeats the last command.

SA SELECT ALL INSTANCES: IN ENTIRE PROJECT / Selects all of the elements that are similar to the selected element in the current view, or throughout the project.demolition.

3.2 SETTING OUT

Setting out a building is the process of transferring architectural proposals from **3.5**

drawings into the ground. It establishes the location points for site boundaries, foundations, columns, centre-lines of walls and other necessary structural parts. Also, it establishes the buiding's correct extent, angle and level. The whole structure will be located and erected according to the initial setting out.

Accurate setting out is therefore a fundamental part of the construction works, and errors can be very expensive and time consuming to correct. It should only be undertaken by competent persons, and all work should be thoroughly checked, preferably by different personnel.

Setting out is usually undertaken once the site has been subject to a condition survey and desk study, and has been cleared of any debris, unwanted vegetation or obstructions. Works necessary to create required levels may also have been completed before the layout process begins.

STEPS IN SETTING OUT

1 A temporary bench mark or level should be obtained to start the setting out for the whole building.

2 A specific height from a near land or from the road level can be obtained as the reference level point for a setting out. This level point will conduct all over the building boundary area or 1m away from the building boundary level.

Reason – The excavation work should be done as shown in the engineering drawing.

3 Leveling with water Tube , surveying , setting out

Mistake that can be achieved if a benchmark level shouldn't be done on a building setting out is clearly shown in the following picture.

Measure the correct distance of column centre from boundary wall as given in the drawing.

3.3 DRAWING

There are different types of drawings in architectural field, which are:

- Architectural drawing
- Structural drawing
- Service drawing/electrical and mechanical drawing.

ARCHITECTURAL DRAWING

There are two classes of architectural working drawing, which are:

i. Working drawing
ii. Presentation drawing

WORKING DRAWING

This is a drawing that is been used for the construction of a project, in which all the various units are well dimension and it also consist of other drawings, i.e. structural, electrical and mechanical drawings.

PRESENTATION DRAWING

This is a drawing that is been presented to the client showing the true picture of the project, how the project will look like after the completion of the project, which has no dimension on it.

SITE PLAN

This is the arraignment and placement of building and other structure and facilities on the propose site.

FLOOR PLAN

This is a drawing that shows the arrangement of different units and the space and their functional relationship of each unit. Each floor must have it own plan prepared, if the building is more than a single floor.

ROOF PLAN

This is a drawing that shows the roof details, the design, the style and shapes of the roof on a building, a roof must be at least 600mm projected away from the external wall of the building, this is to prevent the building from the ray of the sun and rain.

SECTION

This is a drawing that is in skeleton form, which shows the details of a proposed building and the feature that can be seen in elevations. There are two types of section, which are:

1. CROSS SECTION

2. LONNGITUDINAL SECTION

CROSS SECTION

This is type of section that shows the cutting through the shortest part of a building.

LONGITUDINAL SECTION

This is a type of section that shows the cutting through the longest part of a building.

SCHEDULE

This is a drawing that shows the details of doors and windows to be used in the building with the specifications the number required and the designs to be used.

3.4 AUTOCAD

This is an application software been installed for Architect in production of architectural drawing, which make drawing more easier and safe time.

AutoCAD as an application has series of command and shortcut that can be used to carry out function, such as:

	COMMANDS	**SHORTCUTS**
✓	Line	l + enter
✓	Move	M + enter
✓	Copy	Co + enter
✓	Trim	Tr + enter + enter
✓	Extend	Ex + enter + enter
✓	Erase	E + enter
✓	Offset	O + enter

3.5 EXCAVATION

Excavation is the process of moving earth, rock or other materials with tools, equipment or explosives. It includes earthwork, trenching, wall shafts, tunneling and underground. Excavation has a number of important applications including exploration, environmental restoration, mining and construction. Among these, construction is one of the

most common applications for excavation. Excavation is used in construction to create building foundations, reservoirs and roads.

Some of the different processes used in excavation include trenching, digging, dredging and site development. Each of these processes requires unique techniques, tools and machinery to get the job done right. The processes used will depend upon the structure that will result from the construction process.

HOW EXCAVATION PROCESS WORK

Before the excavation and heavy earthworks process can begin, the site must be carefully examined to make sure that the natural habitat and artifacts surrounding it are persevered throughout the excavation process. Next, the plans for the size and depth of the site are made and the excavation contractors makes drawings from them to clearly mark the excavation site's boundaries. Once these two important steps have been taken, the excavation work can begin.

The entire excavation process includes:

- Setting out corner benchmarks
- Surveying ground and top levels
- Excavation to the approved depth
- Dressing the loose soil
- Making up to cut off level
- The construction of dewatering wells and interconnecting trenches
- Making boundaries of the building
- The construction of protection bunds and drains

CHAPTER FOUR

4.1 CONCLUSION

In Conclusion It's Good To Understand At This Contemporary Stage In Life That "Success As We All Understand Is Not Measured By The Height At Which One Find Himself, But It Can Be Measured By What You Can Achieved With Your Initiative".

The organization has been able to import knowledge like now what are in jet age where knowledge is mostly needed in the running of daily life. My coming out of the organization has increased my knowledge of the computer practically and theorically which is an eye opener.

4.2 PERSONAL IMPRESSIONS ABOUT THE ORGANIZATION

The introduction of the students industrial worked experience scheme (SIWES) is highly appreciated has applied to the part of fundamental learning of students.

As discussed thoroughly, the idea of students industrial worked experience scheme is a great opportunity to student who is ready to achieve and to gain more in the area of specialization course of study.

4.3 RECOMMENDATION

With the opportunity of the students industrial worked experience scheme (SIWES) effective facilities are here by demanded to equip trainee for effective performance and standard.

The implementation of the students industrial worked experience scheme(SIWES) should be made a stronger exercise so as to improve the level of exercise.