## ELE1302 ELEC.ENG DRAWING & INSTALLATION PRACTICE

| Hours per Semester | | | | Weighted Total Mark | Weighted Exam Mark | Weighted Continuous Assessment Mark | Credit Units |
|---|---|---|---|---|---|---|---|
| LH | PH | TH | CH | WTM | WEM | WCM | CU |
| 45 | 30 | 00 | 60 | 100 | 60 | 40 | 4 |

**Brief Course Description**

In this course the students will acquire knowledge and skills about domestic, institutional and industrial electrical installations.

**Course Objectives**

1. To introduce students to the basics and standards of drawing techniques as a means of communication
2. To introduce students and give them knowledge and skills in the practice of domestic, institutional and industrial electrical installations and train them to inspect and test electrical installations

**Detailed Course Content:**

**Fundamentals Of Engineering Drawing: [ 6 Hours]**

Definitions and Relevancy; Preference of drawings to written and spoken communication in Engineering; Drawing Office; Organisational Structure, Functions, Drawing Reproduction Processes and Techniques. Drawing Materials and Equipment; Standard Abbreviations and Symbols; Types of Lines; Lettering and Numerals; Types of Drawings; Single-Part or Component, Sub-Assembly, General-Assembly. Sketching; Freehand Sketching, Form and Proportion. Pictorial Projection; Perspective, Isometric and Oblique Projections. Orthographic projection; First angle and Third angle Projections, Sectional Views, Views on Drawings, Auxiliary views, and Points, Lines and Plane Surfaces in Space. Dimensioning; Functional and Non-functional, Principles. Transformation of plane figures; Principles of Tangency; Simple Plane Polygons; Special Curves and Loci; Architectural Drawings;

**Principles Of Electrical Drawing: [ 4 Hours]**

Charts; Applications, Types. Diagrams; Equivalent Circuits, Circuit Diagrams, Block Diagrams, Line Diagrams, Wiring Diagrams, Location or Lay-out Diagrams, Sankey Diagrams, Schematic Diagrams. BS 3939 electrical standard symbols and convection applied to electrical, power systems (generation, transmission, substation and distribution) telecommunications (transmission and receiver systems), radio, television and electronic equipment (circuits and networks); IEC 61346 Letters;

**Drawings And Engineering Design**: **[ 4 Hours]**

Definitions; importance and purpose of drawing in design, product development stages and factors considered; Computer Aided Drawing/Design (CAD); Introduction to Simulation; Limitations of Drawings in the Design process, design of components, choice of materials in design and drawings

**IEE Wiring Regulations**: **[ 16 Hours]**

Scope, objective and fundamental requirements for safety; assessment of general characteristics; protection for safety; selection and installation of ables and equipment; special installations or locations; inspection, testing and certification.
Installation of standby and alternative power supply systems.

**Method of Teaching /Delivery**
The course will be taught by using lectures, tutorials and assignments.

**Mode of Assessment**
Assignments, tests and final examination. Their relative contributions to the final grade are :

| **Requirement** | **Percentage contribution** |
|---|---|
| Course work (Assignments, tests) | 40 |
| % Final examination | 60 |
| % **Total** | **100%** |