

COURSE CONTENT

Course

Course code: GEC 212

Course title & the credit unit: Engineering Graphics (2 UNITS)

Course status - compulsory

Course Duration

Two hours per week for 15 weeks (30 hours)

Lecturer Data

Name of the lecturer: Ikpotokin, I.

Qualifications obtained: M. Sc. Mechanical Engineering

Department: Mechanical Engineering

Faculty: College of Science and Engineering

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Office Location: No 129, Wing C, New College Building, Landmark University.

Consultation Hours: Wednesdays and Fridays and 2- 3 pm.

Course Content:

Lettering, linework, dimensioning, orthographic projection, sectioning, isometric and oblique pictorial views, mechanical components, Architectural Drawing, electrical and electronic drawing.

Course Description:

Engineering graphic is a technical language of communication in which an engineer or technical person uses graphics or drawings as a powerful means of conveying ideas on technical issues to others. Despite the social or economic or cultural or language barriers, drawings can be effectively used in other countries, in addition to the country where they are prepared. Thus, the engineering drawing is the universal language of all engineers. The construction of buildings, bridges, ships, mechanical assemblies, aerospace, automotive, etc are developed from engineering drawing. The areas to cover in this course are lettering, line

work, dimensioning, orthographic projection, sectioning, isometric and pictorial views, reading and interpretation of drawings, electrical symbols, architectural drawing.

Course Justification:

Engineering graphic has its origin sometime in 500 BC in the regime of King Pharos of Egypt when symbols were used to convey the ideas among people. Many graphics such as sculpture, picture etc may be fascinating but lack information to describe them. But engineering graphics contain standards and symbols which can be use for describing, interpreting and producing parts drawn with little or no supervision from the one that make the drawing. Just like every other language, engineering drawing has its own grammar; style and structure that must be learn in order to communicate effectively with it.

Course objectives

At the end of this course, students would be able to:

- (i) To understand skills required for lettering, linework*
- (ii) To know the required dimensioning and hatching skills*
- (iii) To understand the fundamentals of engineering graphics.*
- (iv) To acquire basic skills in engineering drawings and architectural drawings.*
- (v) To understand and interpret any form of engineering drawings.*
- (v) To draw an object from different perspective views.*

Course Requirement:

To be well grounded and fast acquisition of the required drawing skills in this course, the students must have basic knowledge in technical drawing and geometry in mathematics. However, the course is design in such a way that even non-engineering students can be taught to becoming a professional draughtsman.

Since the course involves the use of drawing board and its accessories, each participating students is expected to have their own drawing board and the necessary accessories. This is very important because lack of practical classes could lead to student

failing the course or poor design concept in future.

Method of Grading

S/N	Grading	Score (%)
1.	Test	20
2.	Practical work	10
4.	Final Examination	70
	Total	100

Course Delivery Strategies:

- *Provision of detailed explanation in class on the topic.*
- *Provision of adequate illustration on the board with the aid of a projector.*
- *Making lecturing periods interactive and complimentary it with practical work.*
- *Giving the students class work during the lecture period.*
- *Giving take-home assignments at the end of each lecture.*

LECTURE CONTENT

Week 1: Introduction to engineering graphics.

Week 2: Lettering

Week 3: Line work and dimensioning.

Week 4: Orthographic projection – First angle projection

Week 5: Orthographic projection – Third angle projection

Week 6: Sectioning.

Week7: Isometric projection.

Week 8: Oblique projection.

Week 9: Reading and interpretations of drawings.

Week 10: Mechanical element – bolt and nut.

Week 11: Mechanical element – gear.

Week 12: Electrical drawing

Week 13: Electronic drawing

Week 14: Architectural drawing.

Week 15: Examination

Study Question

Tutorials: Questions will be given to the student at the end of each lecture

Reading List:

Engineering graphics by B Bhattacharya

Engineering by Basant Agrawal

Engineering drawing and graphics by Ke Venugopal