

***SCHOOL OF ENGINEERING (SOE)***

**DEPARTMENT OF CIVIL, ENVIRONMENTAL AND GEOMATICS  
ENGINEERING**

**BSc DEGREE PROGRAMME IN BUILDING AND CONSTRUCTION  
TECHNOLOGY**

**PROGRAMME LEARNING OUTCOMES**

**A. Knowledge and Understanding**

At the end of the programme students should be able to demonstrate knowledge and understanding of:

- A1 Technical drawing on all aspects of Engineering.
- A2 Brick/block laying using all types of bonds.
- A3 To enable students understand the preliminaries involved in the Construction of a building
- A4 To enable students understand the general principles of selecting and preparing sites to receive Various types of foundations.
- A5 Basic computer skills for desirable computer literacy and competence in handling further modules and assignments.
- A6 Basic grammatical skills
- A7 To enable students Understanding the principles of measurement of angles with theodolite and bearings with a magnetic compass and perform such measurement
- A8 Have broad knowledge of Building construction Materials used in construction industry today.
- A9 Understand various requirements as Regards Fire precautions and regulations as applied to building.
- A10 Understand concrete properties in accordance with accepted standards and strength.
- A11 Understand the basic concept of entrepreneurship.
- A12 Know how to prepare and operate cash flow on spreadsheets and understand employment issues.
- A13 Know the basic sanitary appliances fittings and their uses.
- A14 Know the various types of drainage systems used in buildings.
- A15 Know the importance of water/cement ratio in concrete mix design, statistical methods in mix quality control, and the importance of quality control in concrete works.
- A16 Know how to determine reactions, Bending Moments, shear force values, the nature of sudden failure, buckled shapes and effective lengths and understand Framed Structures.

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A18 Maintenance of different structures.

A19 Design of steel and concrete structures

A20 Know about the law, contracts and arbitration.

## **B. Cognitive/Intellectual skills/Application of Knowledge**

At the end of the programme students should be able to:

B1 Carry out all practical in brick laying and setting out of simple building.

B2 Be able to apply the learned knowledge in development of engineering design.

B3 Should be able to apply computer skills in programming and also like excel programmes.

B4 Should be able to account for causes of defects in buildings and how to prevent them.

B5 Use and care for measuring equipments

B6 How to prevent accidents on site by emphasizing safety precautions.

## **C. Communication/ICT/Numeracy/Analytic Techniques/Practical Skills**

At the end of the programme students should be able to:

C1. Plan, conduct and prepare technical and managerial report on an individual research programme

C2. Analyse and solve engineering and management problems, using appropriate mathematical methods as necessary

C3. Be creative in the solution of problems in design and development

C4. Integrate and evaluate information and data from a variety of sources

C5. Take a holistic approach to solving problems and designing systems applying professional judgement to balance risks, cost, benefits, safety, reliability, aesthetics and environmental impact.

C6. Use computational tools and packages appropriate to civil engineering and give presentations using a variety of media

C7. Use laboratory and field work equipment to generate data and use competently and safely standard engineering laboratory instrumentation.

C8. Analyse, evaluate and interpret the experimental and survey results and assess their validity

## **D. General transferable skills**

At the end of the programme students should be able to:

D1. Communicative effectively in writing, verbally and drawings

D2. Apply mathematical skills-algebra, geometry, modelling and analysis

D3. Learn independently in familiar and unfamiliar situations with open mindedness and in a spirit of critical enquiry

- D4. Work constructively as a members of a team and to manage both time and other sources effectively to meet the deadlines
- D5. Undertake Lifelong Learning
- D6. Use Information and Communication Technology
- D7. Demonstrate general numerical skills and problem solving skills.
- D8. Manage tasks and solve problems, transfer techniques and solutions from one area to another, apply critical analysis and judgment.
- D9. Aspire to belong to national and international professional associations that promote still strong ethical standards and integrity.