SCHOOL OF ENGINEERING (SOE)

Department of Electrical and Electronics Engineering

BSc Degree in Electrical Engineering

PROGRAMME LEARNING OUTCOMES

A. Knowledge and Understanding

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

A1. The essential facts, concepts, principles and theories of electrical science underpinning current technologies;

A2. Fundamental theories appropriate to the analysis of electrical system;

A3. Basic practical technologies currently used in electrical engineering;

A4. The limits of their knowledge, and how this may affect analyses of, and solutions to engineering problems;

A5. The commercial and financial constraints that engineers may have to work under

A6. Principles of design of electrical engineering systems,

A7. Management and business practices, including finance, law, marketing and quality control

B. Cognitive/Intellectual skills/Application of Knowledge

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

B1. Select and apply appropriate scientific principles, mathematical and computer based methods for analysing general electrical engineering systems

B2. Analyse and solve electrical engineering problems.

B3. Apply the evolving state of knowledge in a rapidly developing area.

B4. Deploy the appropriate methods, theory, practices and tools for tasks related to the engineering of electrical power systems;

B5. Analyse the professional and ethical considerations of exploiting electrical technology and be guided by the adoption of appropriate professional and ethical practices;

B6. Transfer appropriate knowledge and methods from one topic in electrical engineering to another.

B7. Applying engineering principles to create new products

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

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

C1. Apply the methods and techniques that they have learned to review and critically analyse information concerning engineering problems, and to propose and carry through appropriate solutions

C2. Operate electrical equipments effectively

C3. Plan, conduct and write a report on a project or assignment

C4. Use appropriate mathematical methods or use software packages for design, analysis and modelling

C5. Use relevant laboratory equipment and analyse the results critically.

C6. Design, build and test a system.

C7. Conduct Research into electrical engineering problems.

C8. Manage projects effectively.

C9. Communicate engineering information, ideas, problems and solutions to both specialist and non-specialist audiences, using appropriate technology.

D. General transferable skills

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

D1. Effectively retrieve information from a variety of sources;

D2. Ability to use IT to collect, analyse and present technical information;

D3. Manage resources and time; undertake lifelong learning.

D4. Use appropriate professional design tools;

D5. Work effectively as a member of a team, plan and execute a small project.

D6. Effectively present technical information in both written and oral forms;

D7. Undertake appropriate further training of a professional nature.