

**SCHOOL OF ENGINEERING (SOE)**

**DEPARTMENT OF MECHANICAL AND ENERGY ENGINEERING (MEE)**

**BSC HONOURS DEGREE IN MECHANICAL 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. Basic research, development and practices principles relevant to mainstreaming Mechanical and Energy Technology.
- A2. Working knowledge of a range of modern tools used in the development and analysis of Mechanical and Energy technology systems.
- A3. Knowledge of time-management and work planning issues related to the organization, implementation and successful operation and maintenance, including reporting, of an individual Mechanical and Energy based project.
- A4. Knowledge of key professional, safety and ethical issues arising in modern Mechanical and Energy Technology.
- A5. Knowledge of fundamental design issues relevant to Mechanical and Energy technology and an understanding of how to formulate and analyse design solutions in various technology contexts.

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

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

- B.1. Develop and widen their knowledge base in Mechanical and Energy Technology to undergraduate level standard,
- B.2. develop generic problem solving skills applicable to current, mainstream Mechanical and Energy Technology systems,

B.3. Achieve more in-depth expertise in selected areas of Mechanical and Energy technology,

B.4. Engage in the planning, execution and written/oral presentation of an extended, industrially Mechanical and Energy Technology research orientated project.

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

At the end of the programme a successful student will be able to:

- C1. Identify, adapt and develop models appropriate to the study of a wide-range of different Mechanical and Energy Technology systems, processes and products.
- C2. Apply standard scientific principles to develop Mechanical and Energy Technology solutions to a range of practical problems.
- C3. Select and apply appropriate mathematical and/or numerical methods for analysing relevant problems, and to critically assess and interpret results obtained from these methods.
- C4. Propose, formulate and present suitable design strategies and practices to tackle typical Mechanical and Energy technology orientated problems.
- B5. Undertake an independent literature review on a specialized technology topic.
- B6. Produce clear and detailed written report of Mechanical and Energy project work.

### **D. General transferable skills**

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

- D1. Communicate ideas clearly, by means of both written documentation and oral presentation.
- D2. Effectively utilize modern information resources and technologies.
- D3. Prioritize, organize and schedule work activities effectively.
- D4. Work independently or in a team environment.
- D5. Demonstrate generic problem solving skills.