Module Title:	**Mechanical Science 1**
Academic year:	2008 – 2009
Credit Value:	5 – Mandatory
Pre- requisites:	
Assessment:	50% Final Exam, 25% Practical, 25% Continuous Assessment (C.A.)
Aims	This module equips the student with a fundamental knowledge and understanding of engineering science. It enables the student to apply mathematical formulae to the analysis of physical problems.
Module Content	• Units and Standards of Measure • Area, Volume, Mass and Density • DC Theory, Voltage and Resistance, Ohms Law, Resistors in Series and Parallel, Power in Electrical Circuits, Introduction to AC Current, RMS quantities • Electromagnetics, Faradays Law, Lenz's Law, Grip Rule. • Basic Chemistry, Periodic Table, Ionic and Covalent Bonds. • Introduction into Environmental topics such as Carbon footprint calculation, Greenhouse Gases, Energy sources, Renewable Energy sources.
Intended Learning Outcomes:	**On successful completion of this module the student will be expected to be able to:** 1. Describe and convert SI units. 2. Manipulate basic physical equations and perform basic physical calculations. 3. Describe and perform calculations related to the physical concepts of Volume and Area, Mass and Density. 4. Explain basic DC theory, including voltage, resistance and current. 5. Describe the basic chemistry of engineering materials including molecular structure and bonding. 6. Describe electromagnetics and magnetic fields. Contd.

	7. List and explain alternative energy generation options, their costs and environmental consequences. 8. Describe the basic concepts related to the environment such as Carbon Footprint, Greenhouse Gases. 9. Perform physical experiments in a laboratory under safe conditions. 10. Write a report on a laboratory experiment.