Course Description of
Preparatory Year

First Term:

**MAT 001 Mathematics I. 3Cr. 3-2-0 Hrs/wk**

**PHY 001 Physics I. 3Cr. 3-1-1 Hrs/wk.**

**ME 001 Mechanics I. 3Cr. 3-1-1 Hrs/wk.**
Static of particles and rigid bodies: force systems, equilibrium of ideal systems in two dimensions. Friction. Internal forces: normal, sheer, and bending moment. Kinematics and kinetics of particles in one dimension: force and acceleration, work and energy, impulse, and momentum.

**ME 011 Engineering Graphics and Projection. 2Cr. 2-4-0 Hrs/wk.**

**CHE 001 Chemistry. 3Cr. 3-0-1 Hrs/wk.**

**CE 001 Introduction to Computer Systems. 3Cr. 2-0-2 Hrs/wk.**

**LAN 001 English Language I. 1Cr. 1-1-0 Hrs/wk.**
The course concentrates on material related to the field of engineering and associated with the objective of understanding the structure, meaning, vocabulary, as well as sentence structure patterns of this material.
Second Term:

MAT 012 Mathematics II. 3Cr. 3-2-0 Hrs/wk

PHY 012 Physics II. 4Cr. 3-2-2 Hrs/wk.
Electricity and magnetism: charge, Coulomb's Law, electric field, Gauss's law, electric potential, capacitors and dielectrics, current and resistance, emf and circuits, magnetic field, Biot-Savart law, Ampere's law, Faraday's law of induction. Physical optics: superposition principle of waves, diffraction, interference, polarization of light.

ME 002 Mechanics II. 3Cr. 3-2-1 Hrs/wk.
Kinematics and kinetics of particles in two dimensions: curvilinear motion, rectangular components, tangential and normal components, polar coordinates, Newton's laws, work and energy, impulse and momentum, projectile motion, motion of charged particles in electric and magnetic fields, simple harmonic motion, planetary motion. Kinematics and kinetics of rigid bodies: translation, rotational motion, relative velocity and acceleration, linear and angular momentum, equations of motion.

ME 022 Production Technology. 3Cr. 2-1-2 Hrs/wk.

CE 002 Computer Programming. 43Cr. 3-1-2 Hrs/wk.

LAN 002 English Language II. 1Cr. 1-1-0 Hrs/wk.
Continuation of LAN 001.