Title	**Digital Logic Design**
Code	**CMP-320**
Credit hours	3
Category	Computing
Prerequisite	None
Follow-up	None
Co-Requisite	None
Course Description	**Topics:** Introduction to Boolean Algebra, Basic theorems and properties of Boolean Algebra, Boolean Functions, Complement of a Function Concept of Minterms and Maxterms, Representation of Function in Sum of Minterms or Product of Maxterms, Conversion between Canonical Forms, Standard Forms, Introduction to Karnaugh Map, Two-,Three- and Four- variable Maps, Sum of Products Simplification, Product of Sum Simplification, NAND and NOR Implementation, Don't care Conditions, The Tabulation Method, Introduction to Combinational Logic, Design of Adders, Design of Subtractors, Code Convertors, Analysis Procedure of Combinational Circuits, Multilevel NAND Circuits, Multilevel NOR Circuits, Binary Parallel Adders, Decimal Adders, Magnitude Comparator, Decoders and its applications, Multiplexers, Demultiplexers, Encoders, ROM, Programmable Logic Array (PLA), Introduction to Sequential Circuits, Basic Flip Flop, Clocked RS Flip Flop, Clocked D Flip Flop, Clocked JK Flip Flop, Clocked T Flip Flop, Analysis of Clocked Sequential Circuits, State Reduction and Assignment, Flip Flop Excitation tables, Design Procedure, Design of Counters, Design with State Equations, Introduction to Registers, Shift Registers, Ripple Counters, Synchronous Counters , Timing Sequences, Memory Unit, Random Access Memory.
Text Book(s)	M. Morris Mano, Digital Logic and Computer Design, 1st Edition, Pearson, 1979, ISBN: 0132145103.
Reference Material	Thomas L. Floyd, Digital Fundamentals, 10th Edition, Prentice Hall, 2008, ISBN: 0132359235.