Department of Computer Engineering	
Digital Circuits Design Lab I (66291)	
Total Credits	1
major compulsory	
Prerequisites	P1 : Digital Circuit Design I (66221) P11Synch. : Digital Circuit Design I (66221)
Course Contents	
This course gives an introduction to digital lab equipment including millimeter and breadboards, and to familiarize student with the basic logic gates.	

Intended Learning Outcomes (ILO's)		**Student Outcomes (SO's)**	**Contribution**
1	The ability to understand and deal with logic gates and there characteristics.	B	30 %
2	The ability to build combinational circuits with basic logic components	C	20 %
3	The ability to design logic and sequential circuits based on counters, flip-flops and registers	K	50 %

Textbook and/ or Refrences	
Lab Experiments, Kits User guide, Books and materials used in the Prerequisite course.	

Assessment Criteria	**Percent (%)**
Laboratory Work	60 %
Final Exam	40 %

Course Plan	
Week	**Topic**
1	1 Exp1: Introduction to TTL Logic Gate and Digital Equipment (ILO 1)
2	2 Exp2: TTL &CMOS Logic Levels (ILO 1)
3	3 Exp3: Open Collector &Schmitt Trigger ICs (ILO 1)
4 + 5	Exp4: Combinational Logic Design (ILO 2)
6	Exp5: Gray Code to BCD (ILO 2)
7+8	Exp6: Counters (ILO 3)
9	Exp7: Flip-Flops (1) (ILO 3)
10/11	Exp8: Flip-Flops (2) (ILO 3)
12+13	Exp9: Universal Shift Registers (ILO 3)
14+15	Exp10: Traffic Light Controlling System (ILO 3)
16	Final