

CC216

Digital Logic Design

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
	CC111	3	5	2	2	

COURSE AIM

To develop engineering skills in the design and analysis of digital logic circuits with applications to digital computer.

COURSE WEEKLY CONTENTS

- 1** Introduction to digital concepts.
- 2** Number systems, operations, and codes.
- 3** Logic gates.
- 4** Boolean algebra and logic simplification.
- 5** Simplification using Karnaugh maps, (SOP) and (POS) Expressions.
- 6** Universal gates (NAND, NOR), Quine-McCluskey simplification.
- 7** 7th week exam.
- 8** Functions of combinational logic, adders and sub-tractor design
- 9** Decoders, encoders and combinational design.
- 10** MUX, DEMUX and Comparator design.
- 11** Flip-Flops and related devices.
- 12** 12th week exam.
- 13** Asynchronous counter design.
- 14** Synchronous counter design.
- 15** Shift registers.

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	5	5				30
8 to 12	15 12th Week Exam		5				20
13 to 15		5			5 Term Project		10
16 or 17	40 Final						40
Total	75	10	10	0	5	0	100

REFERENCES

- Textbook** Digital Fundamentals by Thomas L. Floyd, Prentice Hall, Eleventh edition
- Other**
- Digital Design by M. Mano, Prentice Hall, latest edition.
 - Introduction to Digital Logic Design by J. P. Hayes, Addison Wesley, latest edition.
 - Experiments in Digital Fundamentals by David M. Buchla, Prentice Hall, latest edition.
 - Texas Instruments Data Sheets, latest version.