

**CC216 Digital Logic Design****COURSE INFORMATION**

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

**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 Midterm 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 M I D T E R M	5	5				30
8 to 12	15 1 2 T H W E E K E X A M		5				20
13 to 15		5			5 T E R M P R O J E C T		10
16 or 17	40 F i n a l						40
<b>Total</b>	<b>75</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>100</b>

## REFERENCES

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