Course Name	Digital Design		Course Code	COMP 231		
Credit Hours	3		Contact Hours	Theory	Lab	Total
				2	2	4
Offered as	☐ University Requirement ☐ College Requirement ☒ Program Requirement ☒ Core ☐ Elective ☐ ITEC ☒ COMP ☐ CNET					
Level	4		Prerequisite	Nil		

Course Description:

This course provides basic concepts of digital systems, review of core design components and circuit design principles. It covers the principles and methodology of digital logic design at the gate and switch level, including both combinational and sequential logic elements. It covers the topics of number system, Boolean algebra and switching theory, combinational circuits design using multiplexers, decoders, comparators and adders.

Upon completion, the student will be able to:

- To impart an understanding of the basic concepts of Boolean algebra and digital circuit design.
- To provide familiarity with the design and implementation of different types of practically used combinational and sequential circuits.
- To provide an introduction to Hardware Description Language.
- To expose the students to basics of arithmetic algorithms.

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Grading						
	☒ Exam 1	10%	☒ Exam 2	10%	☒ Assignment(s)	20%
	☒ Final	40%	☒ Lab	20%	☐ Mini Project	

Text Book:

- M. Morris Mano, Michael D. Ciletti , "Digital Design: With an Introduction to the Verilog HDL, VHDL and System Verilog", Pearson Publications, 6th edition 2014, ISBN-13: 978-9353062019

References:

- Ronald J, Tocci, Neal S. Widmer, and Gregory L. Moss, "Digital Systems: Principles and Applications" , 11th Edition, 2011, Prentice Hall, ISBN-13: 978-0135103821
- Stephen Brown, Zvonko Vranesic, "Fundamentals of Digital Logic with Verilog Design",3rd Edition, McGraw Hill, 2014, ISBN-13: 978-0073380544