

1.	Title of the course	Digital Logic Design
2.	Course number	CS208M
3.	Structure of credits (L-T-P-C)	2-1-2-4
4.	New course/modification to	New
5.	To be offered by	Computer Science and Engineering
6.	Prerequisite	None
7.	Course Objective(s): To explain principles of digital logic and discuss various circuit design methodologies. To design and develop digital circuit components and systems.	
8.	Course Content: Data representation: integer, floating point, arithmetic operations; Boolean logic: algebra, logic optimisation; Combinational logic: gates, multiplexor, demultiplexor, encoder, decoder, parity circuit, tristate buffers; Arithmetic and logic unit: adder, subtractor, multiplier, divider, comparator, floating point arithmetic; Sequential logic: latches, flip-flops, registers, counters; Digital systems: state machines, programmable logic device, field programmable gate array, hardware descriptor language, simulation.	
9.	Textbook(s): 1. Roth C H and Kinney L L, Fundamentals of Logic Design, Cengage Learning (2014).	
10.	Reference(s): 1. Brown S and Vranesic Z, Fundamentals of Digital Logic with Verilog Design, 3rd Edition, McGraw Hill (2014). 2. Mano M M and Ciletti M D, Digital Design: with Introduction to the Verilog HDL, VHDL, and SystemVerilog, Pearson (2018). 3. John L K, Kil Lee B, Roth C, Digital Systems Design Using Verilog, Cengage Learning (2015).	