

COURSE PLAN AND EVALUATION PLAN

1. Course Code: EC204
2. Course Title: DIGITAL SYSTEM DESIGN LAB
3. L – T – P: 0-0-3
4. Credits: 2
5. Co-requisite: EC200
6. Teaching Department: **Electronics & Communication Engg.**
7. Course Instructor: **Dr SUMAM DAVID S. & Dr. LAISHRAM THOIBILEIMA CHANU**
8. Course Objectives:
 - Develop digital circuit design, analysis, implementation and debugging skills
 - Develop good design practices used in digital systems
 - Model simple digital systems using HDL and implement using FPGAs
9. Course outcomes
 - At the end of the program, the student must be able to*
 - Design and test combinational circuits using SSI and MSI ICs
 - Design and simulate combinational circuits using Verilog and implement them on FPGA
 - Design and test non-pipelined sequential circuits using SSI & MSI ICs
 - Design and simulate non-pipelined sequential circuits using Verilog and implement them on FPGA
10. Course Coverage (12 – Lab Schedule) :

<i>Module</i>	<i>Content</i>	<i>After completing this chapter, the student will be able to</i>	<i>No of weeks</i>	<i>Evaluation</i>
Combinational circuit design	Design and implementation of adders, comparators, decoders, priority encoders, multiplexers, and multi-bit adders	Design, implement & test combinational circuits using SSI and MSI ICs Design and simulate combinational circuits using Verilog and implement on FPGA	5	Test I

Sequential circuit design	Design and implementation of counters, shift registers, sequence detectors, simple state machines for applications like traffic light control, digital lock, vending machine etc.	Design, implement & test simple sequential circuits using SSI & MSI ICs & Logisim Design and simulate simple sequential circuits using Verilog and implement on FPGA	5	Test II
RTL design	Design of serial adder and shift and add multiplier using RTL approach	Model digital systems using RTL approach in Verilog	2	

11. EVALUATION PLAN:

Mid semester exam - 30%

Continuous assessment - 40%

End semester exam - 30%

Prepared by:

Approved by

Prof. Sumam David S.
Course Instructor

Prof Ramesh Kini M.
Head, Dept of E&C and DPGC Chairperson