Introduction to Digital Logic

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Course Details

- Course Code : 0112611
- Course Name: Introduction to Digital Logic (Lojik Devreler)
- Instructor : Nizamettin AYDIN

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Assesment

- Midterm 1 : 20%
- Midterm 2 : 20%
- Homework : 20%
- Final : 40%

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Course Outline

1. Digital Computers, Number Systems, Arithmetic Operations, Decimal, Alphanumeric, and Gray Codes
2. Binary Logic, Gates, Boolean Algebra, Standard Forms
3. Circuit Optimization, Two-Level Optimization, Map Manipulation, Multi-Level Circuit Optimization
4. Additional Gates and Circuits, Other Gate Types, Exclusive-OR Operator and Gates, High-Impedance Outputs
5. Implementation Technology and Logic Design, Design Concepts and Automation, The Design Space, Design Procedure, The major design steps
6. Programmable Implementation Technologies: Read-Only Memories, Programmable Logic Arrays, Programmable Array Logic,Technology mapping to programmable logic devices
7. Combinational Functions and Circuits
8. Arithmetic Functions and Circuits
9. Sequential Circuits Storage Elements and Sequential Circuit Analysis
10. Sequential Circuits, Sequential Circuit Design State Diagrams, State Tables
11. Counters, register cells, buses, & serial operations
12. Sequencing and Control, Datapath and Control, Algorithmic State Machines (ASM)
13. Memory Basics

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Recommended books

Main course book:

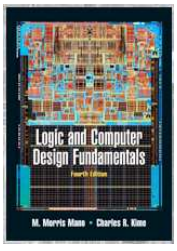
Logic and Computer Design Fundamentals

By M. Mano, Charles Kime.

Published by Prentice Hall.

Edition: 4th.

Isbn: 013198926X



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Digital Design: Principles and Practices
by John F. Wakerly

Digital Systems: Principles and Applications
by Ronald Tocci

Logic and Computer Design Fundamentals
by M. Morris Mano

Verilog HDL
by Samir Palnitkar

Fundamentals of Logic Design
by Jr., Charles H. Roth

Digital Design
by M. Morris Mano

Introduction to Logic Design
by Alan Marcovitz

Digital Design and Computer Architecture
by David Harris

Fundamentals of Digital Logic with Verilog Design
by Stephen Brown

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