

Al-Quds University
Faculty of Engineering
Department of Electronics Engineering

Digital Logic Systems II (0701344)

Second Semester 2001/2002

Instructor : Ali Jamous
Lectures : Sat., Mon., Wed. 11:00 11:50
Office Hours : Sat., Mon., Wed. 9:00 11:00
Prerequisite : Digital Logic Systems I (0701341)
Textbook : Digital Design, M. Morris Mano, Prentice-Hall

References :

1. Digital Fundamentals, Floyd
2. Digital Design from Zero to One, Jerry D. Daniels
3. Digital System Design, Barry Wilkinson

Course Outline :

- Synchronous Sequential Logic
 1. Flip-Flops
 2. Analysis of Clocked Sequential Circuits
 3. State Reduction and Assignment
 4. Flip-Flop Excitation Tables
 5. Design Procedure
 6. Design of counters
- Registers, Counters and Memory Units
 1. Registers
 2. Ripple Counters
 3. Synchronous Counters
 4. Timing Sequences
 5. Random Access Memory (RAM)
 6. Memory Decoding
 7. Error Correcting Codes
- Algorithmic State Machines (ASM)
 1. ASM Chart
 2. Timing Considerations
 3. Control Implementation
 4. Design with Multiplexers
 5. PLA Control
- Asynchronous Sequential Logic
 1. Analysis Procedure
 2. Circuits with Latches
 3. Design Procedure
 4. Reduction of State and Flow Tables
 5. Race-Free State Assignment
 6. Hazards

Grading :

First Hour Exam	25%
Second Hour Exam	25%
HomeWorks & Quizzes	10%
Final Exam	40%