

數位系統
Digital Systems
資訊工程系四進二A
課號 3578

Instructor：洪士程 副教授

E-Mail: schong@cyut.edu.tw

Room: 理工大樓E726

Tel: 7801

Course Time & Office Hours

Course Time

 Friday A,B,C (18:25 - 20:45)

 Classroom: G-106

Office Hours

 Wednesday 10:25-12:10

Credits



 Required or Elective

Required (必修)


 Credits

3 Credits (三學分)

Goal

-  An basic knowledge of digital systems.
-  Give an introduction to:
 - basic aspects and electronic aspects of logic circuits
 - optimized implementation of logic functions
 - combinational circuits used as building blocks
 - storage elements
 - synchronous and asynchronous sequential circuits

Text Book








 M. M. Mano and M. D. Ciletti, “Digital Design,” 5th edition., Pearson Prentice Hall, 2013.

Reference Books

 Reference:

Jr. Charles H. Roth, Larry L. Kinny,
“Fundamentals of Logic Design”, 7th edition,
CL Engineering, 2013.







Schedule of Progress (1/3)

-  Introduction to course (week 1)
-  Chap 1 Introduction (week 1)
-  Chap 1 Binary Numbers (week 2)
-  Chap 1 Complements of Numbers (week 3)
-  Chap 2 Basic Theorems and Properties of Boolean Algebra (week 4)
-  Chap 2 Canonical and Standard Forms (week 5)
-  Chap 2 Logic Gates (week 6)

Schedule of Progress (2/3)

- 📄 Chap 3 Gate-Level Minimization - The Map Method (week 7)
- 📄 Chap 3 Product-of-Sums Simplification (week 8)
- 📄 Midterm exam (week 9)
- 📄 Chap 3 NAND and NOR Implementation (week 10)
- 📄 Chap 3 Hardware Description Language (week 11)
- 📄 Chap 4 Combinational Circuits (week 12)

Schedule of Progress (3/3)

-  Chap 4 Combinational Logic - Analysis Procedure (week 13)
-  Chap 4 Combinational Logic - Design Procedure (week 14)
-  Chap 5 Synchronous Sequential Logic - Sequential Circuits (week 15)
-  Chap 5 Synchronous Sequential Logic - Analysis of Clocked (week 16)
-  Chap 5 State Reduction and Assignment (week 17)
-  Final exam (week 18)

Resources





 Text Book

 Handout

<http://lmsctl.cyut.edu.tw/>

LMS-數位學習系統

Evaluation

-  Quiz (30%)
-  Participation (10%)
-  Mid exam (30%)
-  Final exam (30%)