Alanya Alaaddin Keykubat University | Rafet Kayış Faculty of Engineering
Electrical-Electronics Engineering Department
2023-2024 Spring Semester

Syllabus

Code/Name	EEE / Introduction to Logic Design
Type	Required
Credit/ECTS	6/6
Hour per Week	3(3+0+0)
Level/Year	Undergraduate/3
Semester	Spring
Classroom	WWF | A103
Content	Binary systems and Boolean algebra. Boolean function simplification. Combinational logic. Sequential synchronous logic. Registers and counters.
Prerequisites	EEE 304
Textbooks	***Primary*** Class Notes MM Mano, Digital Design, Prentice Hall, 5th Ed., 2008. ***Supplementary*** B Holdsworth, C Woods, Digital Logic Design, Newnes Elsevier, 4th Ed., 2021.
Objectives	• To teach students the basics of combinational and sequential logic design • To prepare the students for advanced courses in microprocessors • computer architecture and VLSI
Course Outcomes	In this course you will be able to: CO1 explain digital system concept. CO2 design fundamental digital systems. CO3 develop combinational logic circuits such as adder, subtractor, encoder, decoder, multiplexer and demultiplexer CO4 analyze fundamental digital systems. CO5 design and analysis registers and counters.

Weekly Schedule of Topics

W	Topic
1	Binary Systems
2	Digital Computers and Digital Systems
3	Binary Codes, Storages and Registers
4	Binary Logic
5	Boolean Algebra and Logic Gates
6	Basic Theorems and Properties of Boolean Algebra
7	Canonical and Standard Forms
8	Simplification of Boolean Functions, The Map method
9	Combinational Logic and design Procedure
10	Various MSI Components
11	Synchronous Sequential Logic
12	Analysis of Clocked Sequential Circuits
13	Design of Counters

14	Synchronous Counters

Contribution to Program Outcomes*

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	5	5	2	5	1	5	1	3	2	3	2
CO2	4	5	1	4	1	5	4	3	4	3	2
CO3	5	3	3	3	2	5	1	3	1	3	1
CO4	5	4	2	5	0	5	2	2	1	4	1
CO5	4	4	1	4	1	5	4	3	4	1	2

* Contribution Level | 0: None | 1: Very Low | 2: Low | 3: Medium | 4: High | 5: Very High

Course Policy

- Be in the class on time.
- English should always be used to communicate with one another.
- At least 70% attendance is required, otherwise a grade of **DZ** will be assigned.
- You must be present in class for the exercises and solve problems.

Cheating & Plagiarism

- Copying or letting someone copy your work on exams, assignments, or reports is cheating.
- Cutting and pasting text, figures and tables from web sources or any other electronic source is plagiarism.
- The consequence of academic dishonesty is to receive a grade of **FF** for the course.

Evaluation

Exercises	10%
Midterm	30%
Final Exam	60%
Total	100%

Instructor

Name/Surname	Emrah Irmak	Email	emrah.irmak@alanya.edu.tr
Room	228	Office Hours	Tu 10.30-11.30 | F 15.30-17.30

Prepared by Emrah Irmak on June 7th, 2024.