

EE302 – Digital Integrated Circuits

Sabanci University, 2023-2024 Spring

Instructor: Korkut Kaan Tokgoz, korkut.tokgoz@sabanciuniv.edu
Office Hours: Online or face-to-face: Communicate first with e-mail (Office: FENS1064)
Teaching Assistant: Selim Aras Yagmurlu, ayagmurlu@sabanciuniv.edu
Grading Policy: **Homework 20%, Midterm 20%, Labs 30%, Final 30%**
The midterm will be around late April.
Lectures: Tuesdays 13:40-15:30 FASS 1099
Wednesdays 08:40-09:30 FENS L030
Labs: Fridays 12:40-14:30 FMAN L014

Tentative Outline:

Week	Topic
#1	Introduction to Digital IC Fundamentals
#2&3	Static and Dynamic Operation of CMOS Inverters
#4&5	Static CMOS Logic Gates
#6&7	Sequential Logic Gates
#8&9	Dynamic Logic
#10-12	Memory Cells/Arrays
#13	Power Management (if time permits)

Labs: Implementation of standard cell designs using Cadence (Inverter, NOR, NAND, Flip Flops, SRAM).

Computer Usage: Cadence Software under CentOS Linux.

Class Policy: Regular attendance is essential and expected.

Recommended Textbooks: Note that these are recommended, not strictly followed.

1. CMOS Digital Integrated Circuits by S. Kang, Y. Leblebici, 3rd Ed., McGraw-Hill, 2003.
2. Digital Integrated Circuits: A Design Perspective by J. M. Rabaey, Prentice Hall, 2003.

Other Relevant Material: Cadence tutorial at <http://acoustics.sabanciuniv.edu/cds/>