אוניברסיטת
בן-גוריון בנגב

The Department of Mathematics

2019–20–A term

Course Name Introduction to Electrical Engineering 2

Course Number 361.1.3131

Course web page
`https://www.math.bgu.ac.il//en/teaching/fall2020/courses/introduction-to-electri`

Office Hours `https://www.math.bgu.ac.il/en/teaching/hours`

Abstract

Requirements and grading[1]

Course topics

Number representation in dffierent bases, binary codes and binary arithmetic. Combinational systems: Boolean algebra, switching function representations and minimization. Karnaugh maps, prime implicate table. Hazards. Combinational circuit design. Switching devices: logic gates (NAND, AND, NOR, OR, NOT, XOR); modules: HA, FA, HS, FS, Multipliers, Decoders, Multiplexers, Demultiplexers, PROM, PLA. Using modules to the implementation of combinational circuits. Sequential systems: Basic models, synchronous and asynchronous system structure. Bistable memory devices (Latches, Flip-Flops), transition table and state table. Master-Slave Flip-Flops, Edge-Triggered Flip-Flops. Design and implementation of sequential systems, synchronous and asynchronous. Race problem solution. Special modules: Registers, Shfit Registers, Counters.

[1] Information may change during the first two weeks of the term. Please consult the webpage for updates