LE202: Basic Electrical Engineering Design II

Instructor: Songyot Nakariyakul, Charturong Tantibundhit
Prerequisite: LE201
Course description:
Laboratory work and design projects on basic electronic circuits, digital systems, and electrical machines.

Course topics

Digital Circuit Lab (Songyot Nakariyakul)
Website: http://songyot.ece.engr.tu.ac.th/LE202/

Lab 1	Introduction to Logic Circuits
Lab 2	Combinational Circuits
Lab 3	7-Segment Display
Lab 4	Flip-flops and Synchronous Sequential Circuits
Lab 5	Counters

Signal Processing Lab (Charturong Tantibundhit)

Lab 6	Working with the MATLAB® User Interface • Variables and Commands
Lab 7	Analysis and Visualization with Vectors and Matrices
Lab 8	Automating Commands with Scripts
Lab 9	Flow Control
Lab 10	Writing Functions
Lab 11	Programming with Functions
	Exam

Digital Circuit Lab

Software: We will use Logisim (http://www.cburch.com/logisim/index.html) to simulate circuits in this lab. Logisim is a freeware and it is easy to use.
References:

1. Stephen Brown and Zvonko Vranesic, *Fundamentals of Digital Logics with Verilog Design*, 3rd Ed., McGraw-Hill, 2013.
2. M. Morris Mano and Michael D. Ciletti, *Digital Design*, 4th Ed., Prentice Hall, 2007.

Grading: > 80% = A
< 50% = F

Lab Policy: Copying and using another person's work is not allowed.