COURSE	Name	: Integrated Electronic Systems Lab.
	Code	: EE184741
	Credits	: 3
	Semester	: VII

Description of Course

The course of Integrated Electronics System Lab. discusses the analytical, simulating, practicum, and design process of Analog Electronic Systems including Linear & Non-Linear Amplifiers, Oscillators & Small Signal Rectifiers, DC to DC converters, Active Filters, Analog-Digital converters, and Field Programmable Analog Arrays; Embedded Electronics Systems; Design using Programmable Device include: hardware programming languages such as VHDL or Verilog, use of EDA tools for design, Implementation on FPGA that includes the design of combinational circuits, sequential circuits, FSM, DSP digital filter circuit and microprocessor design.

Learning Outcomes

Knowledge

(P05) Mastering the factual knowledge about information and communication technology, and the latest technlogy and its applications in power systems, control systems, multimedia telecommunications, or electronics.

Specific Skill

(KK05) Able to utilize analytical and engineering design tools based on appropriate information and computation technology to perform engineering activities in power systems, control systems, multimedia telecommunications, or electronics.

General Skill

(KU07) Able to take responsibility for the achievement of group work and supervise and evaluate the work completion assigned to the worker under his/her responsibility.

Attitude

(S12)Working together to be able to make the most of his/her potential.

Course Learning Outcomes

Knowledge

Mastering factual knowledge about the latest technology of analog and digital circuitry and its use in integrated electronics system.

Specific Skill

Able to utilize analytical and engineering tools based on appropriate analog and digital electronics technology in conducting engineering activities on integrated electronics systems.

General Skill

Able to be responsible for the achievement of group work that includes the process of analysis, simulation, practicum and design of integrated electronic systems.

Attitude

Working together to make the most of his/her potential concerning to the process of analysis, simulation, practicum and design of integrated electronic systems.

Main Subjects

1. Linear & Non-Linear Amplifiers
2. Oscillator & Small Signal Rectifier
3. DC to DC converters
4. Active Filter
5. Analog-Digital converter
6. Field Programmable Analog Array
7. Design of analog electronic systems
8. Embedded Electronics System
9. VHDL / Verilog and EDA Tools
10. Combinational circuit in FPGA
11. Sequential Circuits in FPGA
12. Face to face and display with FPGA
13. Digital Filters (FIR) in FPGA
14. Microprocessor in FPGA

Reference(s)

[1] Instructions of Integrated Electronic Systems Lab., 2018

Prerequisite(s)

EE184541 Design of Analog Electronic Systems

EE184542 Embedded Electronic System

EE184643 Design Using Programmable Device