

COURSE	Name	: Design of Analog Electronic Systems
	Code	: EE184641
	Credits	: 3
	Semester	: VI

Description of Course

The course of Analog Electronic Systems Design discusses: Analysis, simulation, design and application of Operational Amplifier & its parameters, Precision Rectifier, Oscillator & Timer, Voltage-controlled Oscillator, One-shot Multivibrator, Pulse-width Modulation, Digital to Analog Conversion, Analog to Digital Conversion, Logarithmic and Antilog Amplifier, Linear Voltage Regulator, Switching Regulator, Analog Proportional-Integral-Derivative Controller, Switched Capacitor, Field Programmable Analog Array, Power Amplifier, Phase-locked Loop, Lock-in Amplifier circuits.

Learning Outcomes

Knowledge

(P03) Mastering the concepts and principles of design procedure in power systems, control systems, multimedia telecommunications, or electronics.

Specific Skill

(KK03) Able to describe system design for problem solving in power systems, control systems, multimedia telecommunications, or electronics by concerning technical standards, performance aspect, reliability, ease of application, and assurance of sustainability.

General Skill

(KU01) Able to apply logical, critical, systematic and innovative thinking in the context of development or implementation of science and technology that concerns and implements the value of humanities in accordance with their area of expertise.

Attitude

(S09) Demonstrating attitude of responsibility on work in his/her field of expertise independently.

Course Learning Outcomes

Knowledge

Mastering the concepts and principles of design procedure for analysis, simulation, and application of analog electronic systems.

Specific Skill

Able to describe the design of analog electronic systems for problem solving in power systems, control systems, multimedia telecommunications, or electronics by concerning technical standards, performance aspect, reliability, ease of application, and assurance of sustainability.

General Skill

Able to apply the analysis, simulation, design, and application of analog electronic systems

Attitude

Demonstrating attitude of responsibility regarding the analysis, simulation, design, and

application of analog electronic systems independently.

Main Subjects

1. Precision Rectifier
 2. Osilator & Timer
 3. Digital-Analog Conversion
 4. Logarithmic & Antilog Amplifier
 5. Voltage Regulator
 6. Analog Proportional-Integral-Derivative Controller
 7. Switched Capacitor
 8. Power Amplifier
 9. Phase-locked Loop
 10. Lock-in Amplifier
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Reference(s)

- [1] Muhammad Rivai, 2018. Lecture Note: Design of Analog Electronic Systems
 - [2] Thomas L Floyd and David Buchla, Fundamentals of Analog Circuits, Pearson Custom Publishing, 2012.
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Prerequisite(s)

EE184501 Analog Circuits
