COURSE	Name	:	Digital Control Systems
	Code	:	EE184622
	Credits	:	3
	Semester	:	VI

Description of Course

In this course the concept of control systems that use digital controllers (microprocessors or computers) is studied. Currently electronic devices are almost entirely based on digital systems, so all the signals processed in the controller are done digitally. In this course: analysis of control system in discrete time domain followed by controller design.

Learning Outcomes

KNOWLEDGE

(P02) Mastering the concepts and principles of engineering, and implementing them in the form of procedures for analysis and design in power systems, control systems, multimedia telecommunications, or electronics.

SPECIFIC SKILL

(KK01) Able to formulate engineering problems in power systems, control systems, multimedia telecommunications, or electronics.

GENERAL SKILL

(KU02) Able to demonstrate independent performance, quality, and measurable.

ATTITUDE

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

Course Learning Outcomes

KNOWLEDGE

Mastering the concept of digital control systems ranging from systems analysis to designing the controller.

SPECIFIC SKILL

Able to analyze and design digital control systems.

GENERAL SKILL

Mastering the concept of digital signals as well as to represent a digital control system in Matlab

ATTITUDE

Able to complete independent tasks and groups by working together positively

Main Subjects

1. The concept of digital control system
2. Conversion and signal reconstruction
3. Time domain analysis on discrete time systems
4. Frequency domain analysis on discrete time systems

5. Design of digital controllers

Reference(s)

[1] Charles L. Phillips and H. Troy Nagle. Digital Control System Analysis and Design, third edition, Prentice Hall, 1995.
[2] K. Ogata, Discrete-Time Control Systems, Second Edition, Englewood Cliffs, NJ: Prentice Hall, 1995, ISBN: 0-13-034281-5.

Prerequisite(s)

EE184521 Control System Analysis and Design