COURSE	Name	: Signals and Systems
	Code	: EE184305
	Credits	: 3
	Semester	: III

Description of Course

The Signal and System coursediscusses the representation of signals and systems, the concept of a continuous time-invariant Linear Time-Invariant (LTI) system, Fourier series of continuous time signals, Fourier continuous time transformations and their applications, Laplace transforms and their applications, the discrete-time LTI system concepts, Fourier series discrete time signal, Fourier time discrete transformation and Z transformation.

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

(KU12) Able to implement information and communication technology (ICT) in the context of implementation of his/her work.

ATTITUDE

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

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

Course Learning Outcomes

KNOWLEDGE

Mastering the concept of signals and linear systems in the complex domain, frequency and frequency domains.

SPECIFIC SKILL

Able to analyze signals and linear time-invariant systems in the continuous time domain and discrete time domain.

GENERAL SKILL

Able to use Matlab / Simulink software to visualize and experiment the concepts of signals and linear systems.

ATTITUDE

Demonstrate a responsible attitude towards the work in the field of expertise independently.

Working together to be able to take full advantage of their potential.

Main Subjects

1. Signal and System Concepts
2. Continuous Time LTI System
3. Fourier Continuous Time Transform
4. Laplace transform
5. Discrete Time LTI System
6. Fourier Time Discrete Transformation
7. Transformation Z

Reference(s)

[1] Fatoni, Ali. “Diktat Sistem Linear”
[2] S.Soliman, Samir and D.Srinath,M. : "Continous and Discrete Signal and Systems", Prentice-Hall, Englewood Cliffs, New Jersey 1990.
[3] V. Oppenheim, A and T. Young, Ian : "Signal and Systems", Prentice-Hall of India, New Delhi 1990
[4] Sanjit K Mitra: “Digital Signal Processing : A Computer - Based Approach.” 4th Edition. Mcgraw Hill Education, 2013McGraw-Hill, New York, 1983.
[5] Irwin, J. David, Nelms, R. Mark, Basic engineering circuit analysis, 11th edition, John Wiley & Sons, USA, 2015.

Prerequisite(s)

EW184003 Electric Circuits