COURSE DETAIL

SIGNALS AND SYSTEMS
Country China
Host Institution Tsinghua University
Program(s) Tsinghua University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mechanical Engineering
UCEAP Course Number 154
UCEAP Course Suffix
UCEAP Official Title SIGNALS AND SYSTEMS
UCEAP Transcript Title SIGNALS AND SYSTEMS
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

This course covers the signal representation/analysis, especially how to represent the complex signals in simple format either in time or frequency domain. Based on that, it also covers how signals behave after passing through various linear, time-invariant systems. It consists of following individual yet highly related sessions including Introduction, time-domain analysis on the linear, time-invariant systems, signal representation in frequency domain (Fourier analysis & Fourier transform), Laplace Transform, Discrete time-domain signals, Z-Transform, Discrete & Fast Fourier transform, the state space analysis of the linear systems, and etc. This course focuses on the basic theory and analytical method from time-domain to transform domain, from continuous to discrete, from the description of single-input-single-output to the state variables. It will lay down a solid foundation for the further study for courses including Digital Signal Processing, Stochastic Process, Communication Circuit, Principle of Communication. The requisite courses include calculus, linear algebra, complex variable functions, principles of electric circuits.

Language(s) of Instruction
English

Host Institution Course Number
30230654

Host Institution Course Title
SIGNALS AND SYSTEMS

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Course Last Reviewed
2024-2025

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